TEXTILE WORLD

A McGraw-Hill Publication ---------- OCTOBER • 1951

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ATLANTA

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The demand for Draper #11 Drives for E Model looms has been so great that one set of patterns, jigs, and fixtures, has been sent to our East Spartanburg plant so that these drives can now be manufactured in our Southern shops.

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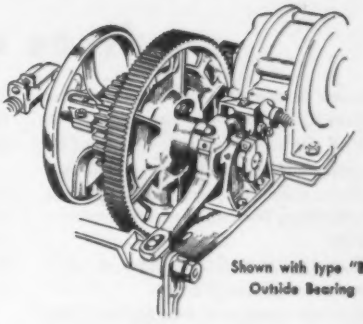

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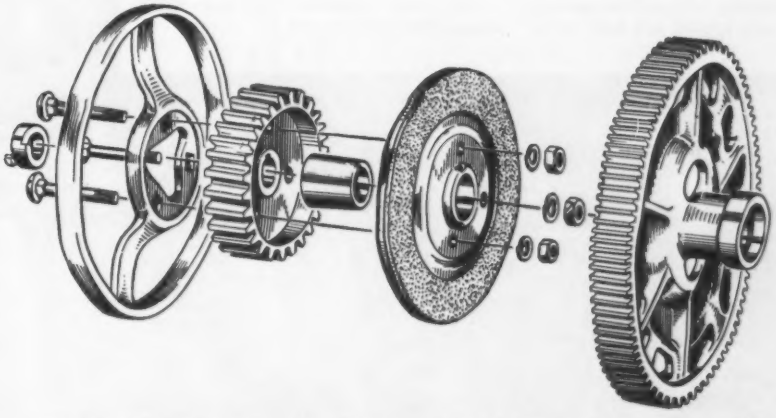

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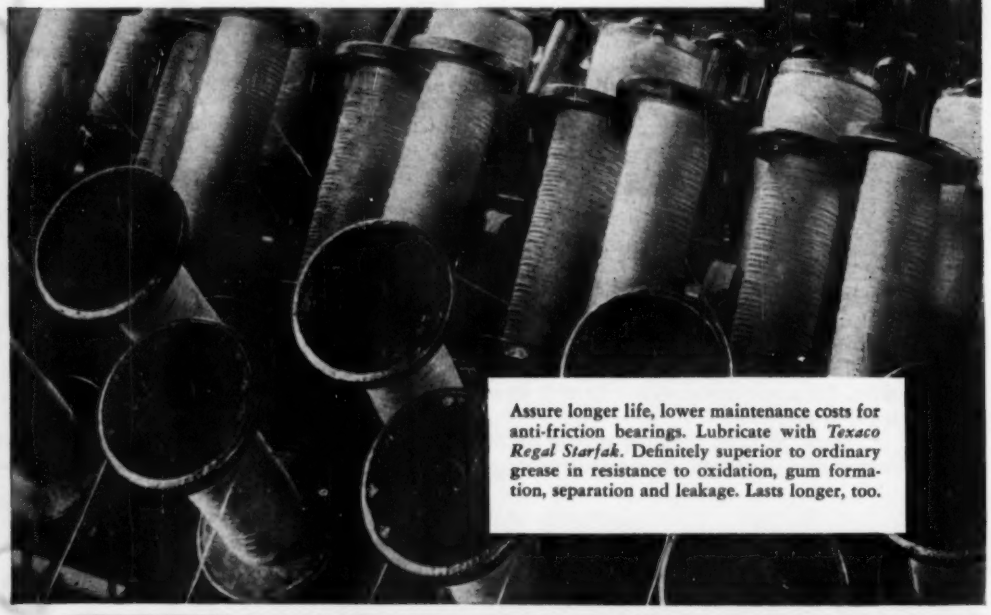

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THE Long-Range VIEW

Spinning Costs Are Too High

If you spin cotton carded yarn, it's almost certain that you can reduce your costs 30% or more.

On the face of it, this is an astonishing statement; and without facts and figures to back it up, such a statement would be meaningless. Carded-yarn spinning is one of the branches of the industry where most technological progress has been made in the last two decades. It is surprising, to say the least, that so many good and profitable mills are operating so far short of what they could do. Yet a recent study of fifteen representative mills by well-qualified agencies shows that untold profits are going down the drain.

The study was sponsored and paid for by the U. S. Dept. of Agriculture. It was made by Ralph E. Loper Co., well-known textile engineers, with close cooperation and assistance by the Carded Yarn Assn. The purpose of the study was to show how cotton-yarn manufacturers could increase efficiency and reduce costs. The fifteen mills studied were compared with model mills laid out on sound engineering principles and equipped with machinery known to be practical.

The most important thing found out was this: Total yarn-manufacturing costs in the mills spinning 10s yarn ranged from 12.88¢ per lb. to 17.78¢ per lb., and averaged 15.05¢. For the model mill, the cost was 10.54¢—a saving of 4.51¢ per lb., or better than 29%. Costs in mills spinning 20s and 30s yarn followed much the same pattern.

Labor costs account for most of this 29% loss. In some instances, wage rates ran labor costs up; but by far the greatest money loss in the fifteen mills came from inefficient use of labor. It is significant that for 10s, 20s, and 30s yarn one or another of the mills was more efficient at nearly every process than were the model mills. But no mill was as efficient at every process. Areas where most mills are paying for too much labor for the production they get are fly frames, spinning, winding, and handling and storage.

Several conclusions can be drawn from this study of current mill performances. Among them are:

1. Mills are not making the profits they should make.

2. Efficient operation is spotty. Some departments and some processes in almost every mill are top-notch. Others in the mills are eating up profits by their inefficiency.

What can be done about it?

The first thing is to get a copy of this report* and compare your operation with it. You'll probably find that you look good in some areas and not so good in others. To recapture the profits that are now going down the drain, you may need a mill-wide modernization program. Most likely, though, you will need only to continue the steady program of improvement progressive mills always have under way.

Specific things the report cites as needed by most mills are:

1. New and modern machinery for opening, picking, roving, and spinning.

2. Arrangement of machinery for better flow of work and more efficient operations, better lighting, evaporative cooling, and better humidification.

3. Full workloads based on the improved machinery and working conditions.

Actually, all of this is an old story. You've heard it any number of times. Some mills are doing something about it, but it is astonishing that the average of fifteen representative mills is so far below what could be called the 1951 standard. It is an uncomforting thought that cotton-spinning mills are among the industry's most progressive mills and yet the average spinning mill is fumbling along with costs and efficiency on a level ten to twenty years behind the times. A similar study in other branches of the industry, with the possible exceptions of filament-synthetics mills and full-fashioned hosiery mills, very likely would turn up an even more startling picture.

A few years ago, it was popular to criticize machinery-development people because there were not available such things as large-package spinning frames that could be operated at spindle speeds of 13,000 to 15,000 rpm., looms that would weave at speeds approaching 300 ppm., automatic doffing machines, etc. Even now a lot of words are being thrown back and forth about wage-rate differentials; and the government is coming in for plenty of criticism about the pricing of yarn, cloth, and cotton.

Before we begin to take our criticisms too seriously, and before we firmly believe that any low profits we may have are caused by outside factors, it would be fitting to plug up the drains in the mill and bring operations to the cost and efficiency levels that are now possible.

O. M. Thomas

* Ask for *Technical Bulletin No. 1033, August 1951. Address: Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C. Price 40¢.*

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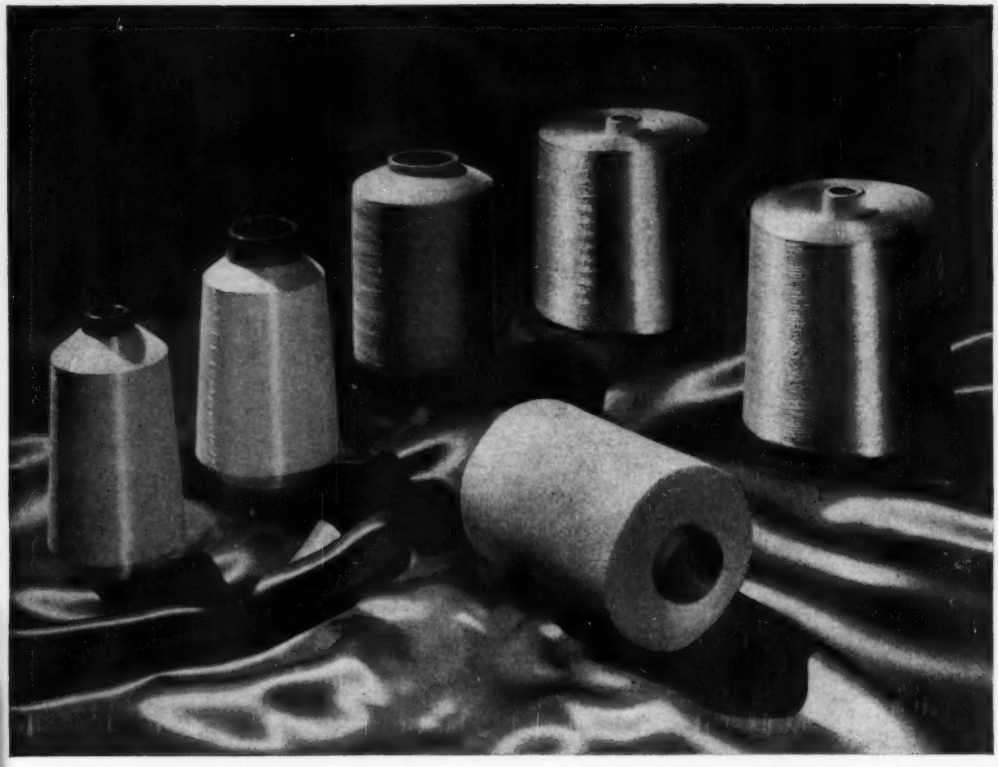

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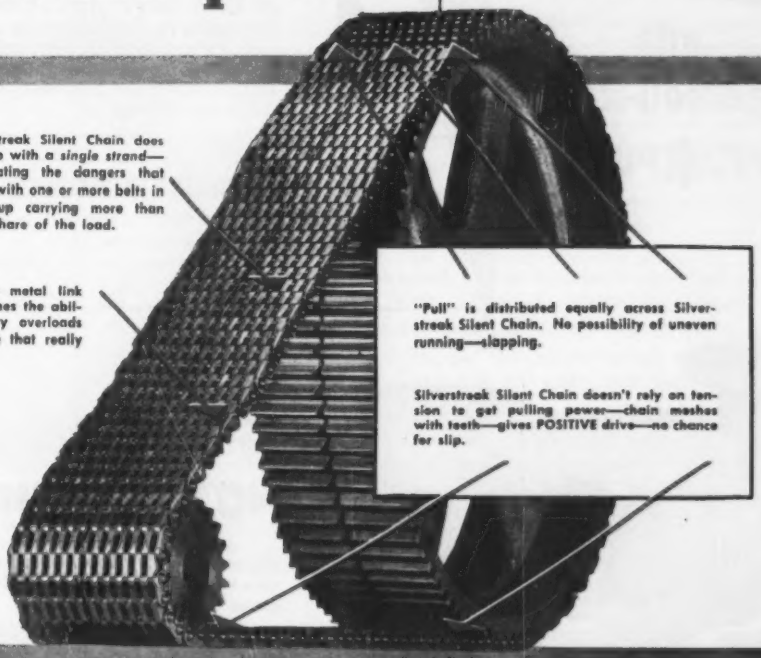

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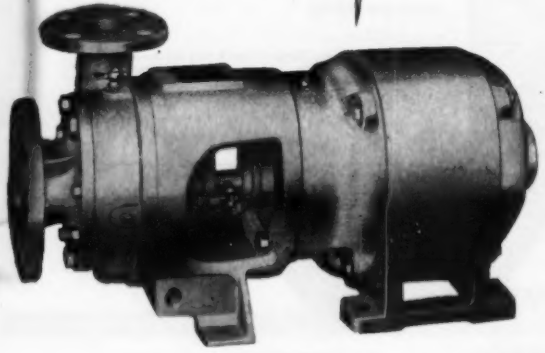

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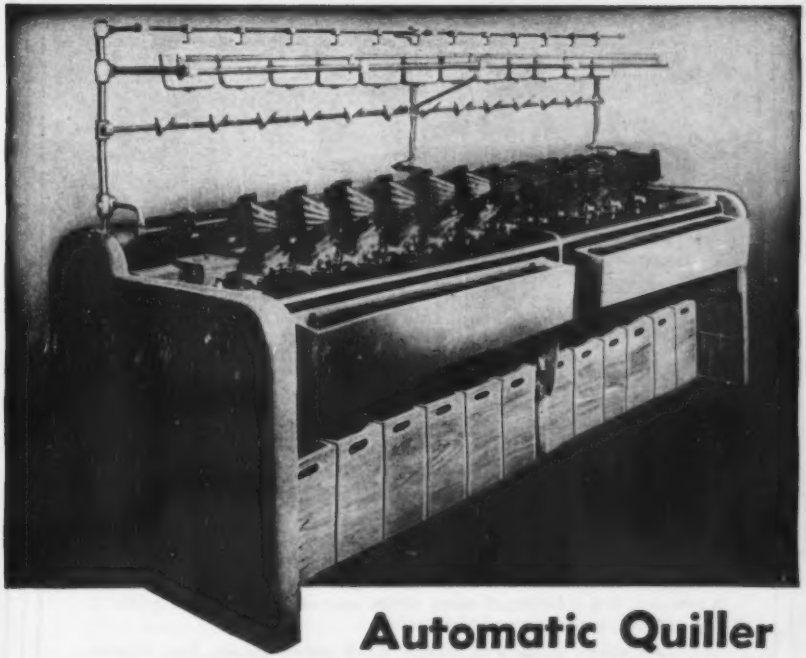

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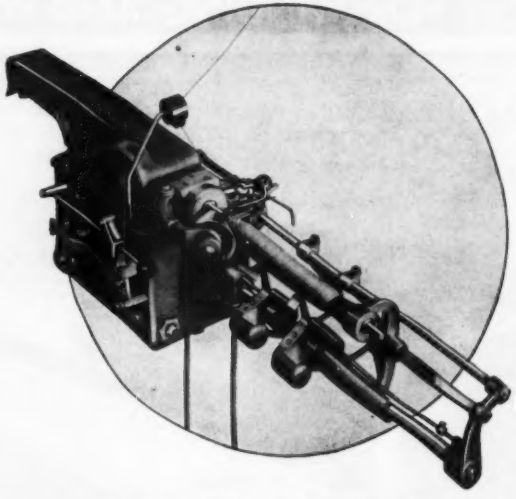

The Automatic Hollow Cop Winder Type MT fills the need for a highly productive labor-saving machine for winding jute, hemp, paper, carded wool or any other coarse textile fibre.

Each spindle is a small machine in itself and is easily adjustable for length of cop, diameter and traverse length. All shafts, and the feeler cone building up the cop, run on ball bearings. Progressively acting three-disc-tension is provided, and a fool-proof safety device automatically stops the spindle if any obstruction to smooth running occurs.

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This recently-developed optical whitening agent makes white fabrics whiter and many colored fabrics brighter. In textile processing, it can be applied to all cotton and rayon materials either by padding or exhaustion methods, producing an even whitening, fast to chlorine.

Blancophor SC High Conc. absorbs invisible ultra-violet rays and emits them as visible blue fluorescence. It is a colorless, substantive dyestuff which masks normal yellowish cast and increases over-all surface reflectance.

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After analysis, S/V engineer prepares report, with recommendation of correct wool oil.
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2000
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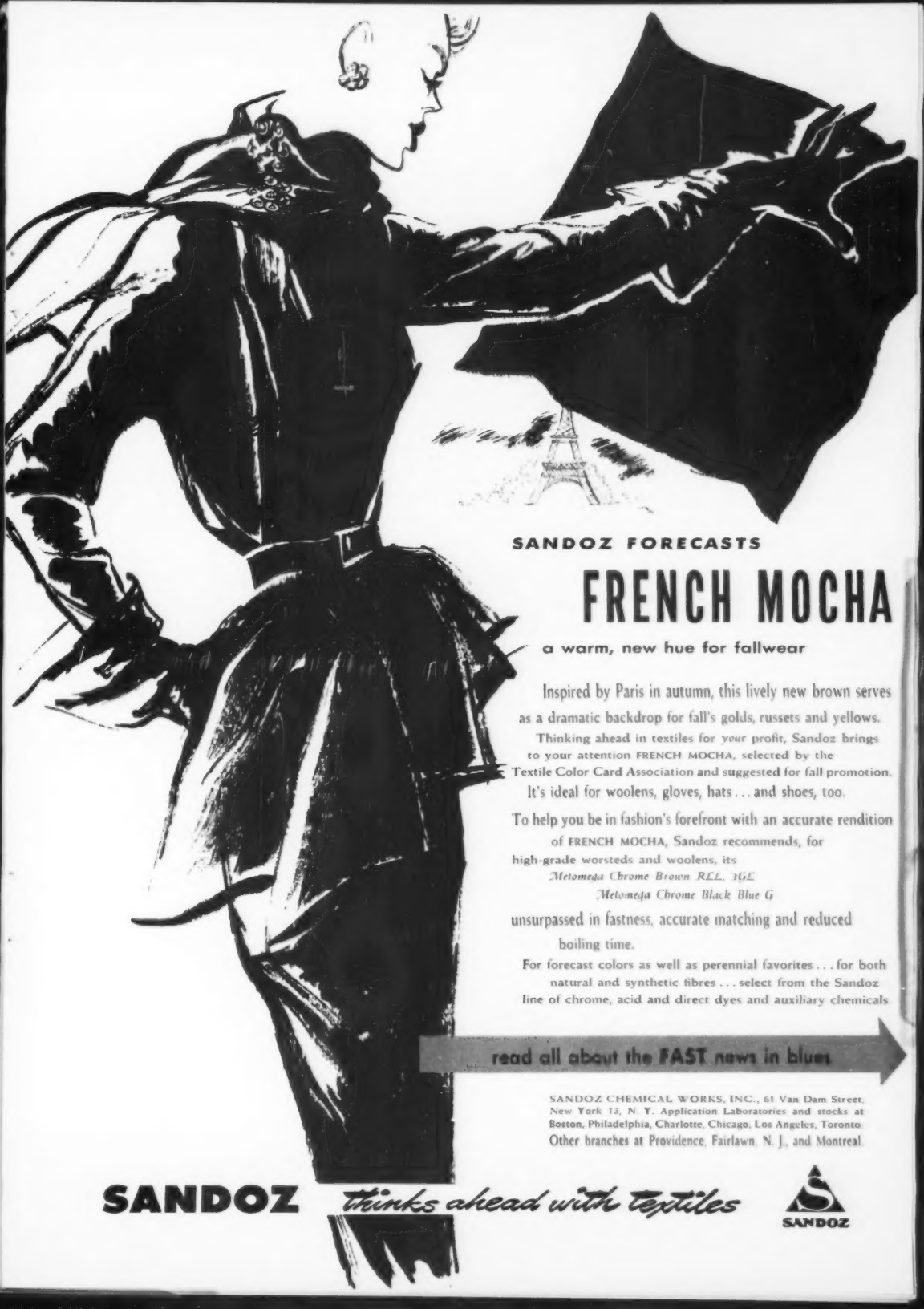

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FRENCH MOCHA

a warm, new hue for fallwear

Inspired by Paris in autumn, this lively new brown serves as a dramatic backdrop for fall's golds, russets and yellows.

Thinking ahead in textiles for *your* profit, Sandoz brings to your attention FRENCH MOCHA, selected by the Textile Color Card Association and suggested for fall promotion.

It's ideal for woolens, gloves, hats . . . and shoes, too.

To help you be in fashion's forefront with an accurate rendition of FRENCH MOCHA, Sandoz recommends, for high-grade worsteds and woolens, its

Melomeja Chrome Brown RLL, 3GL

Melomeja Chrome Black Blue G

unsurpassed in fastness, accurate matching and reduced boiling time.

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read all about the FAST news in blues

SANDOZ CHEMICAL WORKS, INC., 61 Van Dam Street, New York 13, N. Y. Application Laboratories and stocks at Boston, Philadelphia, Charlotte, Chicago, Los Angeles, Toronto. Other branches at Providence, Fairlawn, N. J., and Montreal.

SANDOZ *thinks ahead with textiles*

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At last! A direct blue that's both wet-and-light fast!

CUPROFIX blue FGL pat.

Now, you can dye cottons, rayons, blends, with CUPROFIX Blue FGL pat., a general utility blue also known as Pyrazol Fast Blue FGL pat., and greatly improve the wet fastness by an after-treatment of CUPROFIX 47.

This level-dyeing, greenish-blue is ideal for viscose, acetates, rayons and wools to be resin-treated, as well as prints of light and medium discharge-able shades (resin-treating optional).

CUPROFIX colors and after-treatment give you the only *direct*-dye method comparable to costlier vat dyes...*triple*-fast, to *sunlight, washing, perspiration.*

Label Your Spun Rayon Garments "WASHABLE"

Adding CUPROFIX to the resin bath increases fastness to washing sufficiently to permit labeling garments "washable" instead of just "dry cleanable." It also:

materially increases efficiency of the usual resin treatment

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Since CUPROFIX colors cost so little more than direct dyes, isn't it *smart business* to after-treat? Write us for free booklet.

CUPROFIX Blue FGL pat. (after-treated with CUPROFIX 47) Fastness Properties

Solubility at 175 F (80 c) ..... 50 grams per litre

		COTTON	VISCOSE
Fastness to Light		6 6–7 7	6–7 7 7
Fastness to Water:	change in shade	5	5
	staining	5	5
Fastness to Washing at 140 F: (medium shades)	change in shade	4–5	4–5
	staining	4	4–5
Fastness to Alkalies		4	4
Fastness to Sulphite		5	5
Fastness to Acids:	Acetic Acid 30%	5	4
	Hydrochloric Acid 10%	2	2
Fastness to Scrooping		4	4
Fastness to Rubbing		5	5
Fastness to Perspiration:	change in shade	4–5	4–5
	staining of wool	5	5
	staining of cotton	5	5
Fastness to Heat		5	4–5
Fastness to Hot Wet Pressing		5	5
Fastness to Formaldehyde		4	4
Dischargeability by special recipe		4	4
Sensitive to Metals:	copper	4	4
	iron	4	4
Sensitive to Lime		not sensitive	
Change of shade in artificial light		greener	greener
Reserve of Acetate Rayon (Type ACS)		white	white
Reserve of Nylon		white	white
Suitability for rubberized goods		not suitable	
Suitability for anti-crease treatment		suitable	
Temperature of maximum exhaustion		175–195 F (80–90 C)	

5 (8 for light-fastness) denotes the best,
1 denotes the least degree of fastness.

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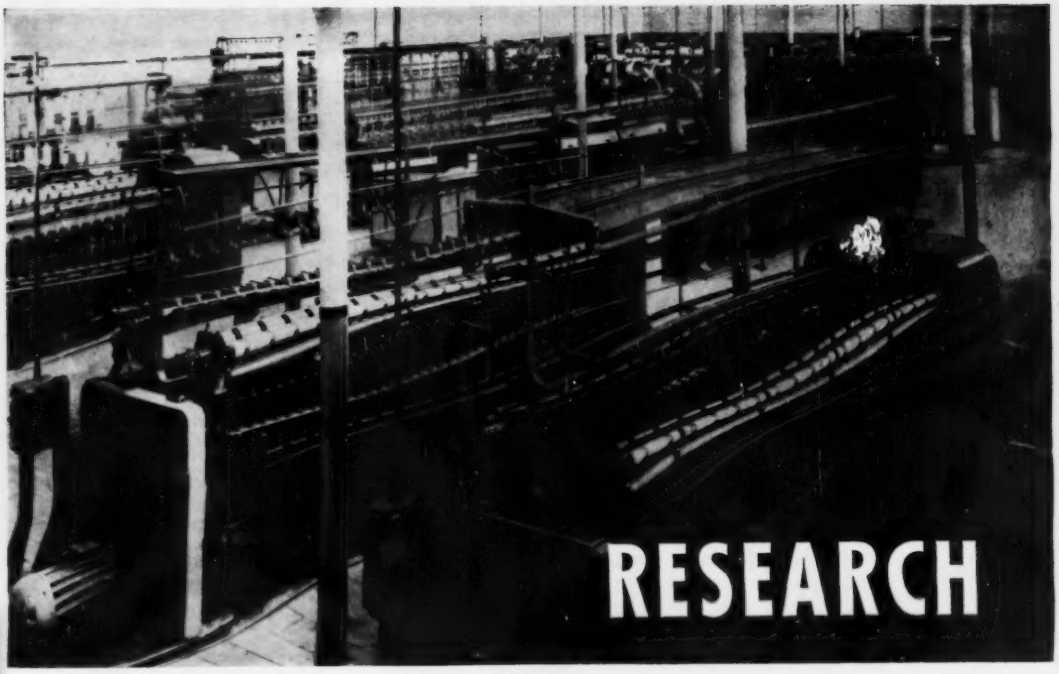
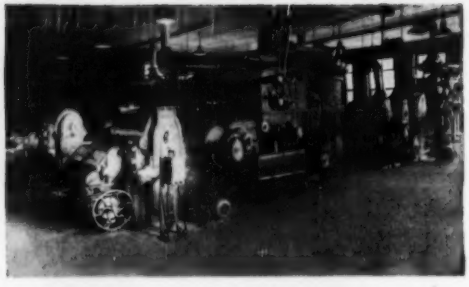


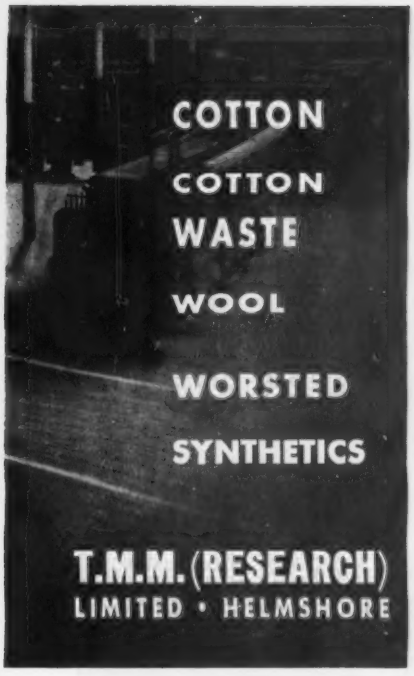
1. The machine shop is equipped to quickly fabricate components of modified or prototype machines. These shops and laboratories are for the purpose of research only.



2. The technological laboratory includes an opening and picking room, a carding, spinning and twisting room, where conditions approximate as nearly as possible those in a mill.

3. The textile testing laboratory provides full information on the quality of the product in all stages of processing, from the bale to plied yarn.

4. The physics laboratory investigates fundamental principals involved; designs and develops instruments needed for textile engineering research.



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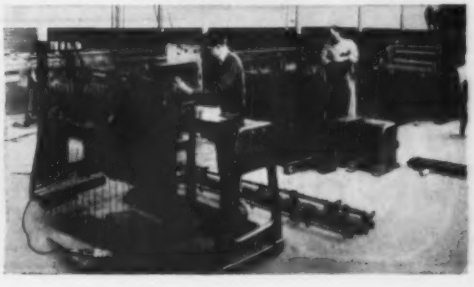
6. The prototype shop produces full scale working models embodying the results of applied research. It makes the initial run of new machines and components before the final test under actual mill conditions.



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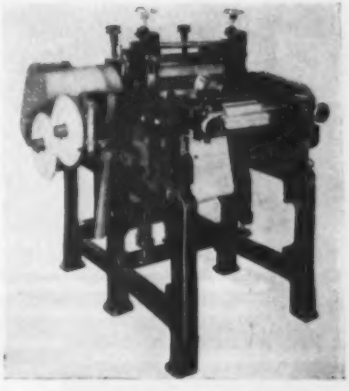

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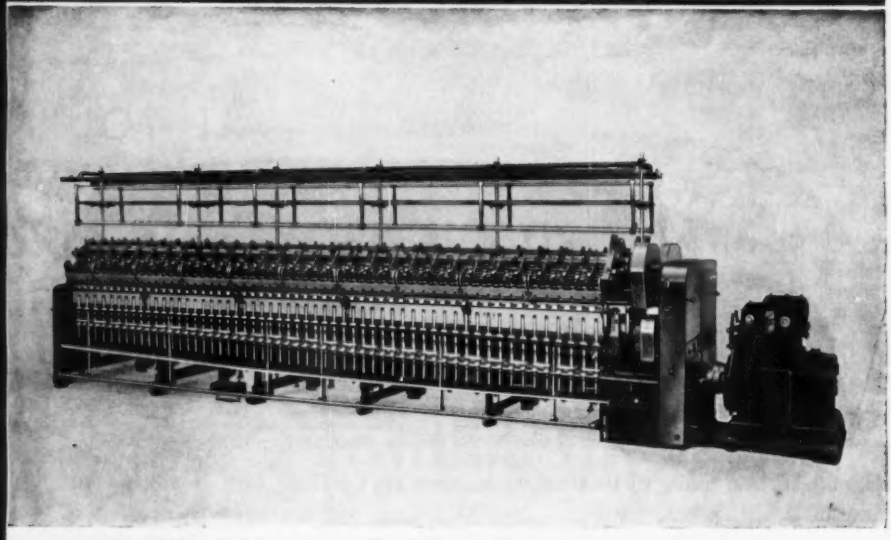

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assure smooth, positive shuttle throw

Look! See what happens to a straight check strap in less than a second! . . . as shown in this series of "frozen-action" photographs. In photo No. 1, the stick is approaching the bumper. It has already made contact with the loop of the strap and is drawing it through the fingers. In Nos. 2, 3 and 4 the stick is at the bumper and the strap is flexing back upon itself. In No. 5 the stick is starting to return and the strap soon will be completely flexed, ready to receive the stick and gently cushion its travel to the end of the lay.

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Changing Speeds is Fast, Accurate, Easy with *Vari-Pitch* Sheaves

SPEED CONTROL PAYS OFF in production and reduced costs with *Texrope* drives. The simple addition of a *Vari-Pitch* drive (using your present standard speed motor) provides speed control that is both accurate and low cost.

With *Vari-Pitch* drives your mill becomes more versatile. Orders can be taken for any number of types of yarn. Speed changing is no problem. Best of all, no expensive special motors or bulky electrical control are required.

Vari-Pitch sheaves are available in a wide range of sizes, in Standard and Wide Range types with either Stationary or Motion control.

In addition, Allis-Chalmers offers you more than the drive itself. A-C offers the extra engineering skill that comes from having more industrial V-belt installations than any other manufacturer. The first multiple V-belt drive was by Allis-Chalmers . . . and that drive was for the textile industry.

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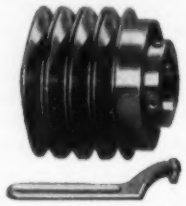
Take Your Choice of These *Texrope* Variable Speed Drives

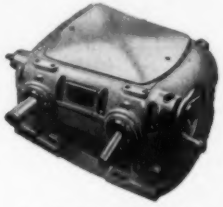
VARI-PITCH Wide Range Sheave

Provides speed flexibility at low cost. Sheaves are built with one to four grooves for Q and R belts. Capacity: fractional to 30 hp, in Stationary and Motion Control types. Speed range: 2 to 1.



VARI-PITCH Standard Sheave

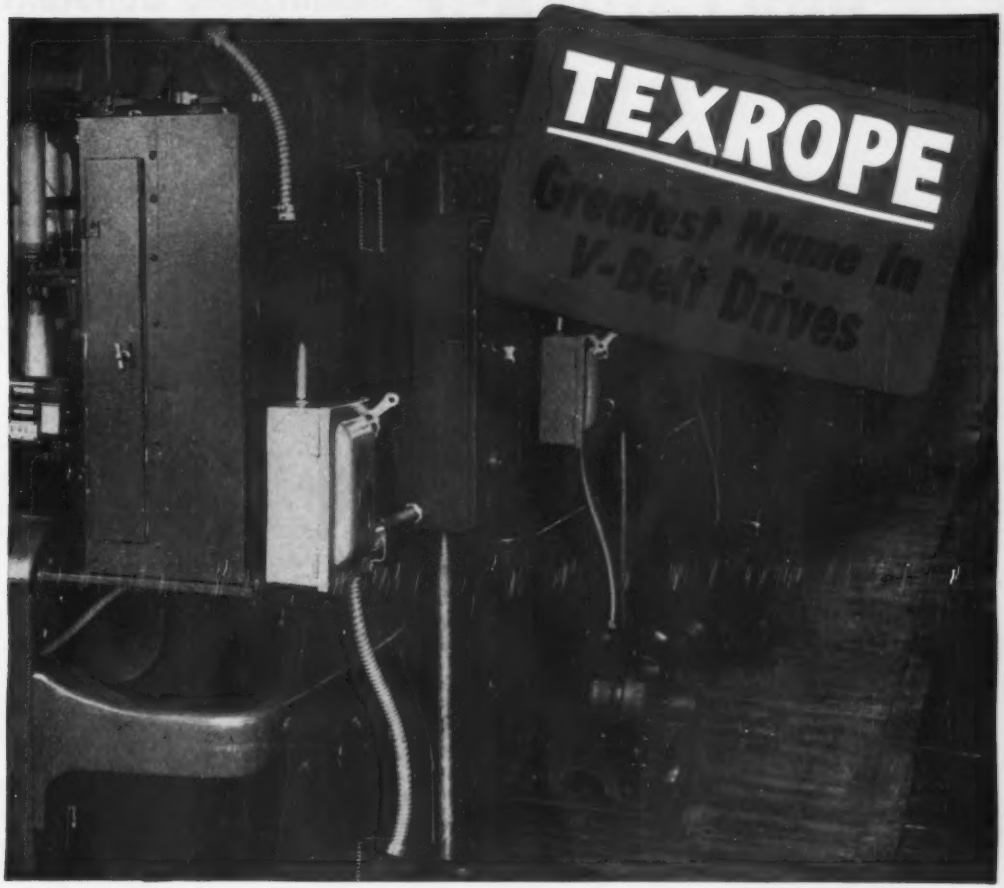
Speed range of 9% to 28% on drives of 1 to 300 horsepower, using A, B, C, D, or E belts. Two to 10 grooves. These sheaves are available in either Motion Control or Stationary Control types.



VARI-PITCH Speed Changer

You get smooth, accurate speed control at the turn of a hand wheel. You operate your machines at exactly the right speed for highest production. Stepless speed range: 3¾ to 1. Capacity: 1½ to 75 hp.

at Low Cost!



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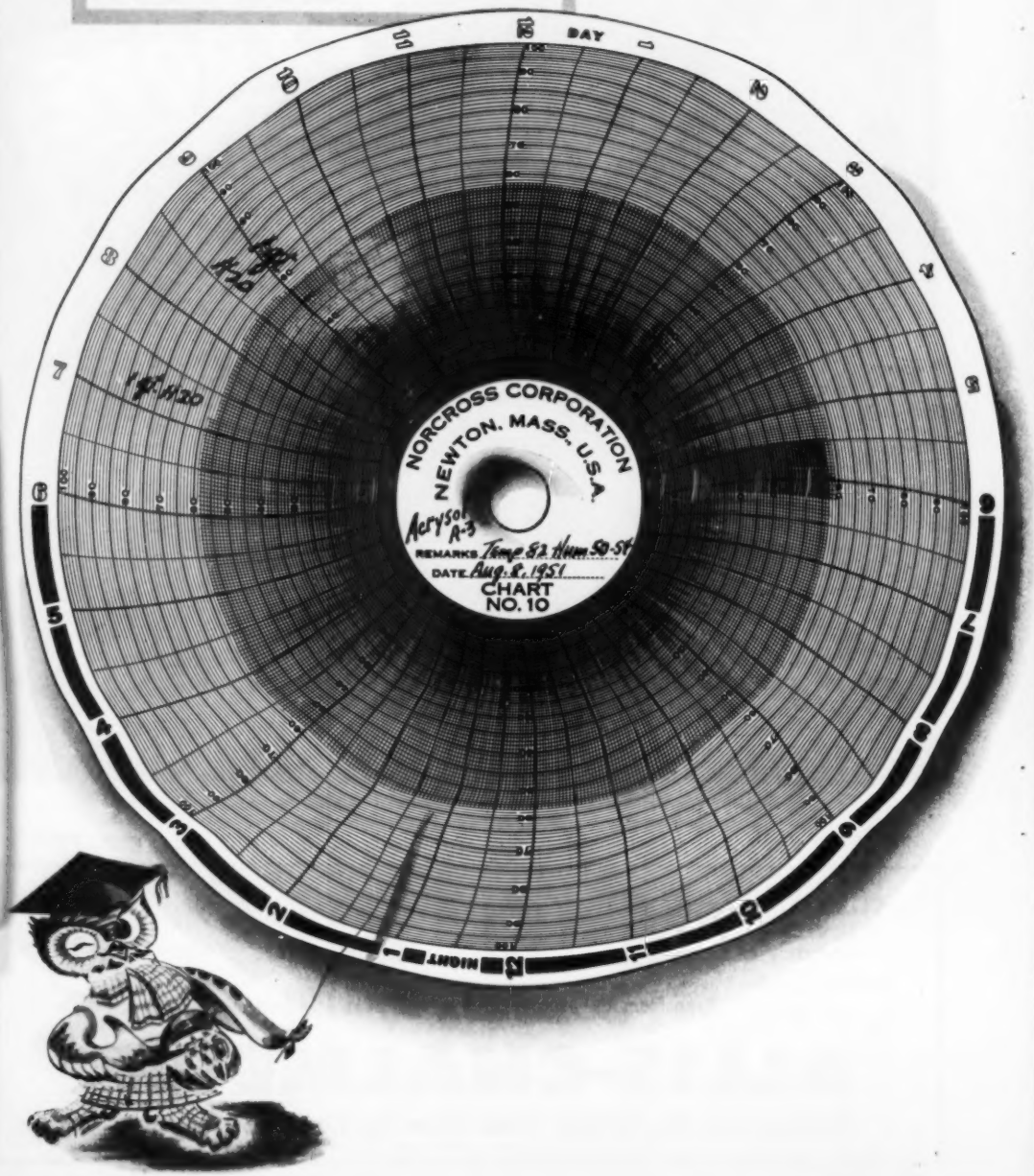
ACRYSOL A-3 Maintains Constant



Viscosity in Single End Sizing of Nylon Tricot Yarns

- *25% solution of polyacrylic acid*
- *uniform viscosity and application*
- *high adhesion—will not rub off or shed*
- *maximum protection for the yarns*
- *easily removed in scouring*

This is a reproduction of a chart from a Norcross automatic recording viscometer, which measures the viscosity of a solution at three minute intervals. This chart, which covers a period of twenty-four hours, demonstrates the remarkable uniformity of ACRYSOL A-3 sizing solutions, a major factor in the production of uniformly sized tricot yarns. At certain points indicated on the chart, water was added to replace that lost by evaporation. Thus, the viscosity measurement offers a convenient control of the size concentration.

Supplied as an aqueous solution containing 25% polyacrylic acid, ACRYSOL A-3 is easily diluted to the proper size concentration and viscosity. ACRYSOL A-3 does not rub off or flake during the coning, warping, and knitting operations, and therefore provides maximum protection.

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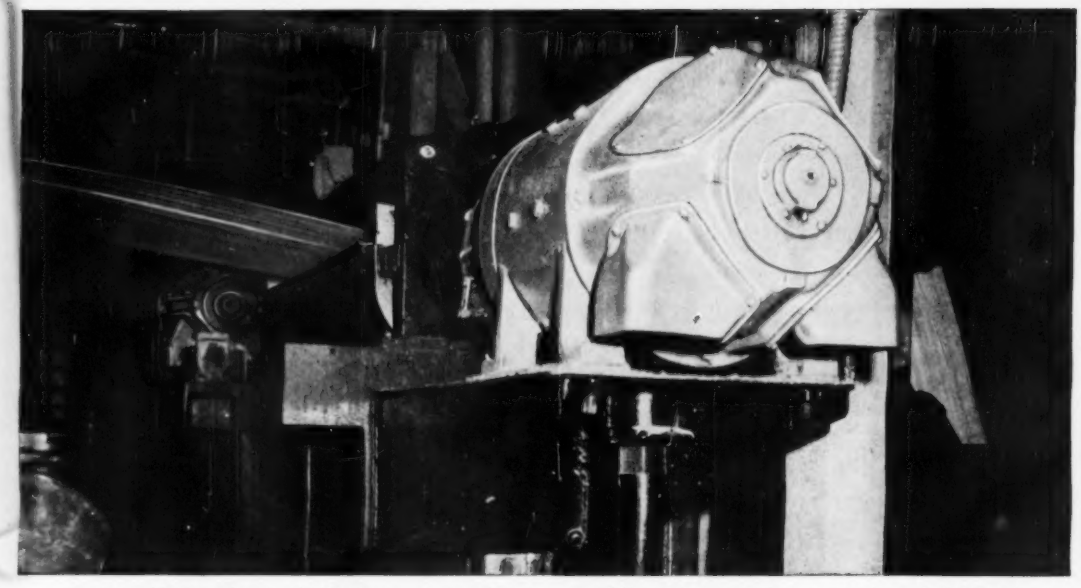
For Continuous High-Speed Finishing!

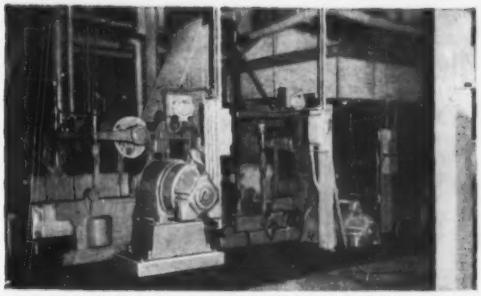


Singeing and De-Sizing Range at this bleachery comprises two 50-inch units driven by 15-hp G-E gear-motors (shown above) and a 110-inch unit driven by a 25-hp G-E motor. G-E motors also drive four pilers and three folders. Selection, manufacture, and delivery of all G-E equipment for this modern, high-output mill was co-ordinated by General Electric.

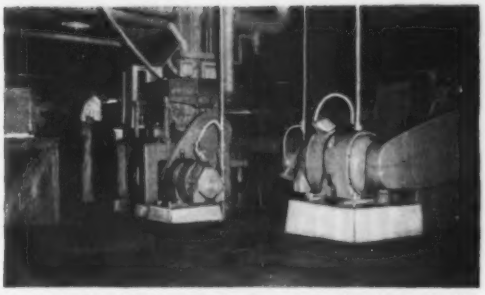
GENERAL ELECTRIC

654-19

For more information, write direct or use Reader Service post card.



Mercerizing Range, (above) includes a 50-inch 2-roll water mangle and a 50-inch 15-ton 3-roll caustic padder powered by G-E gear-motors rated 20 and 25 hp. Other G-E motors run scutcher, tenter frame, washer and piler. By making it an all G-E plant, Springs Cotton Mills simplified ordering, saved time and effort otherwise required by piecemeal purchasing.



Rope Bleaching Range, one of three at Grace Bleachery, uses G-E motors throughout. Photo shows the tight rope hot washer and the tight rope squeezer connected to G-E 25-hp and 20-hp gear-motors. All G-E motors used in this plant were co-ordinated by G-E application engineers to assure an efficient smooth-working installation.

Finishing Range is one of six at this Springs Cotton Mills plant equipped with G-E motors throughout. Shown here are the scutcher, 3-roll water mangle, 10-can dryer, 2-roll starch mangle, 20-can dryer and 90-foot enclosed tenter frame. When the mill was completed at end of 1948, start-up time was minimized by G-E field-service engineers who checked initial operation.

Continuous Dyeing Range, with individual Williams units driven by G-E 7½-hp gear-motors, provides a range of cloth speeds from 37½ yards to 150 yards per minute, as well as threading speeds of 10 to 15 yards per minute. Like hundreds of other companies, Springs Cotton Mills finds it pays off to place full responsibility for electric equipment needs on General Electric.

Over 300 G-E motors in Grace Bleachery, South Carolina, help process 6 million yards of grey goods per week!

Quickly summarized, here are some advantages General Electric range drives can offer you—advantages that add up to efficient range operation, continuous high-speed finishing:

You get any desired speed range and jogging speed, easy control of overall speed from a central point, and close speed co-ordination for all motors by means of compensating gates or "soft" motors. Flexibility of operation is assured, with individual units easily disconnected from the range. If required, you can have dynamic braking for quick stopping and regenerative braking for controlled deceleration. And you can count on top reliability and low maintenance, with a simple, sturdy G-E gear-motor at each drive unit.

Here's more! G-E range drives are now also available in packaged form to give you the additional advantages of lower installed cost, simplified installation, and new ease of making changes in your plant layout.

Take a tip from Springs Cotton Mills. Save yourself time and trouble in modernizing or expanding any mill process by letting General Electric co-ordinate all your electric equipment needs. Ask your G-E textile-mill specialist to tell you the whole story on G-E range drives, as well as drives for any other textile-mill application. *General Electric Co., Schenectady 5, N.Y.*

RANGE DRIVES FOR TEXTILE MILLS

Before you modernize or expand your textile mill, see "Textiles Unlimited," General Electric's "More Power to America" full-color sound movie. A helpful, half-hour film, it shows how other textile mills are modernizing with profit, will give you at least 40 specific ideas on improving quality and cutting costs. Ask your G-E representative to arrange a showing.

Killing STATIC is not enough

If you can't say "YES" to these questions, your present anti-static agent is doing only half its job.

★ Does it spread evenly and thoroughly, covering all capillary surfaces of fibers or filaments?

★ Does it establish a uniform coefficient of friction, imparting equallized fiber-to-fiber cohesion?

★ Does it insure absence of gumminess involving aprons and card clothing?

★ Does it give you freedom from yellowing? Rancidity? Corrosive effects on mechanical parts?

★ Does it scour out readily and completely?

★ Is it balanced to do your job?

You can expect these "extras" and others, when you use Nopco "balanced" anti-static chemicals.

Reg. U.S. Pat. Off.

Nopco's "balanced" anti-static chemicals will be featured at the forthcoming Exhibit of the American Association of Textile Chemists and Colorists at the Hotel Statler in New York, October 17-19. You are cordially invited to visit Nopco booths 4 and 5 in the Georgian Room during your stay.

NOPCO * "Balanced" Anti-Static Chemicals

NOPCO 1656-R— *A moisture-free worsted oil applicable to all worsted production systems.*

NOPCO 1056-A— *A vital processing aid for Nylon warp and filling yarns.*

NOPCO FUA— *Widely used wool lubricant. Performs like a soap in wet finishing.*

NOPCO 1125-P— *For Nylon and Orlon yarns for lace manufacture. Prevents graphite contamination.*

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Don't let corrosive media *eat away your profits!*

We know that to have production in the Chemicals or Process Industries you must have corrosive media. We also know that "down time" caused by corroded valves slows up production and therefore "eats away" your profits.

But why worry? Powell makes valves of the *right* materials to resist the action of every known form of corrosive media encountered in these industries.

Gate, Check, Globe and Y Valves, in Bronze, Iron, Steel and Corrosion-Resisting Metals and Alloys

★ *Quality fine throughout "The Line"* ★

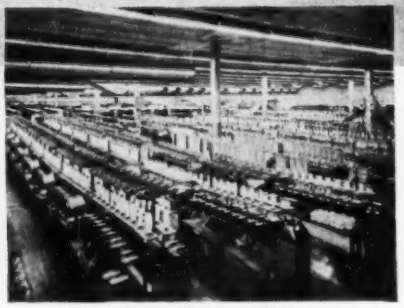
Fig. 2453-G. Large 150-pound O. S. & Y. Gate Valve. All the dimensions conform to the latest standards. Can be furnished in: Stainless Steels, Hastelloy Alloys, Monel Metal, Herculoy, Everdur, Inconel, Nickel, and other metals and alloys.

POWELL

The WM. POWELL CO., 2525 Spring Grove Ave., P. O. Box 106, Station B, Cincinnati 22, Ohio

Stonecutter Mills, Spindale, N. C., manufacturers of "Fabrics of Distinction"

What Makes a Mill Really Modern?



Spinning room at Stonecutter Mills—air-conditioned by Worthington equipment.

This is as modern-looking a mill as you've ever seen, isn't it?

It's Stonecutter Mills at Spindale, N. C.—a pioneer in weaving of quality dress fabrics of synthetic yarns.

Now look inside—in the Preparatory Department—which includes tinting, sizing, drying, twisting and other operations to prepare the yarn for weaving. You can see its modern equipment, floor to ceiling.

* * *

And if you were there, you'd get the idea of the modern *air control* — which provides the proper temperature and humidity conditions for the processing, and which also, by filtering the air, keeps the mill and the products "spick and span".

* * *

This modern mill uses the *most modern* air conditioning equipment—Worthington.

A 750-ton Worthington centrifugal refrigeration system furnishes chilled water for air-conditioning the Preparatory Department. And the offices are air-conditioned by six Worthington package air conditioners, providing a total of 80 tons of refrigeration.

This installation, made by the Bahnson Co., Winston-Salem, N. C., is typical of the preference for Worthington air conditioning throughout the textile industry. From the complete Worthington line, *any* mill can find the *right* equipment for its needs.

For *more worth in Worthington* write Worthington Pump and Machinery Corporation, Air Conditioning and Refrigeration Division, Harrison, N. J.

WORTHINGTON

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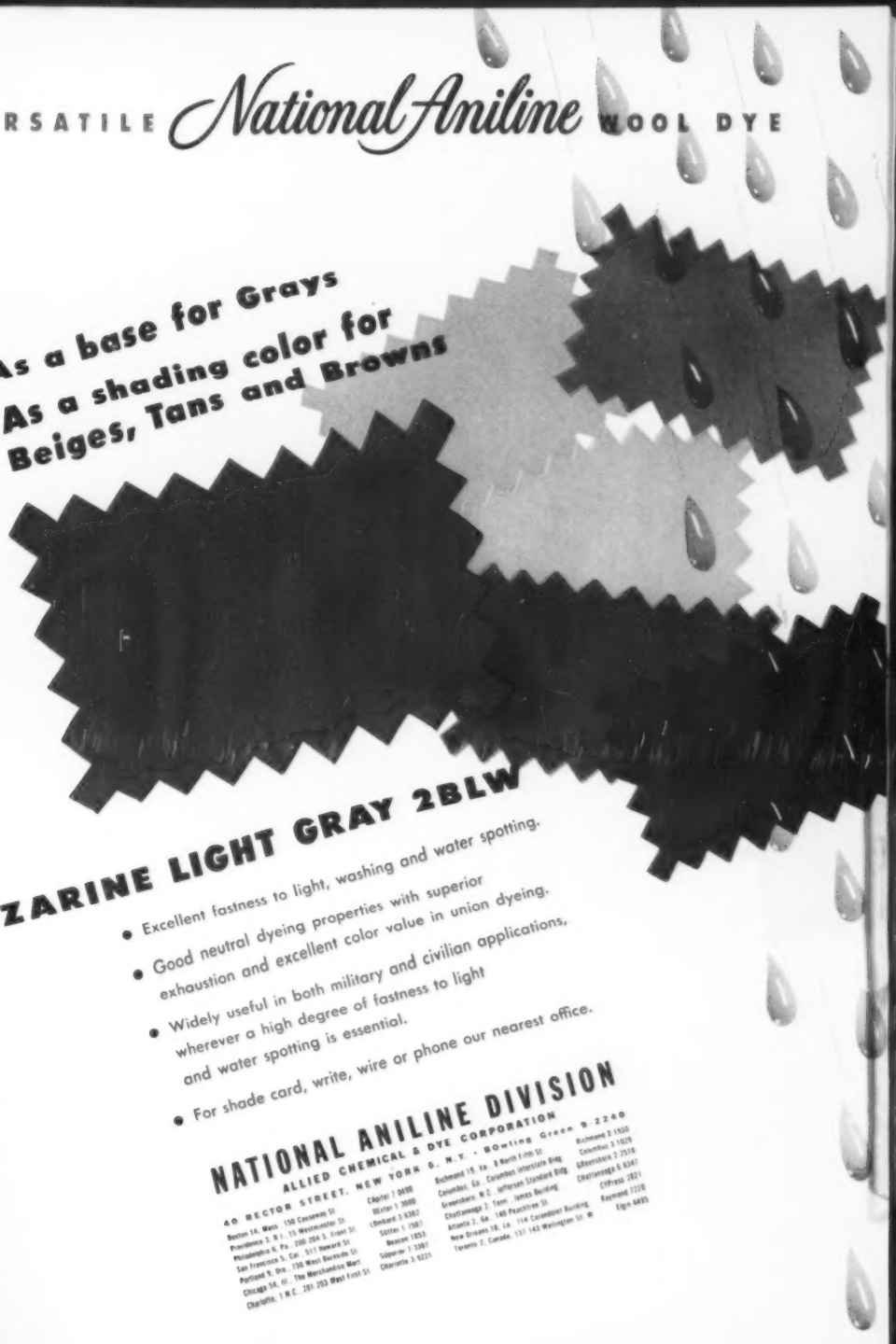
AIR CONDITIONING AND REFRIGERATION

A VERSATILE *National Aniline* WOOL DYE



As a base for Grays

As a shading color for Beiges, Tans and Browns

ALIZARINE LIGHT GRAY 2BLW

- Excellent fastness to light, washing and water spotting.
- Good neutral dyeing properties with superior exhaustion and excellent color value in union dyeing.
- Widely useful in both military and civilian applications, wherever a high degree of fastness to light and water spotting is essential.
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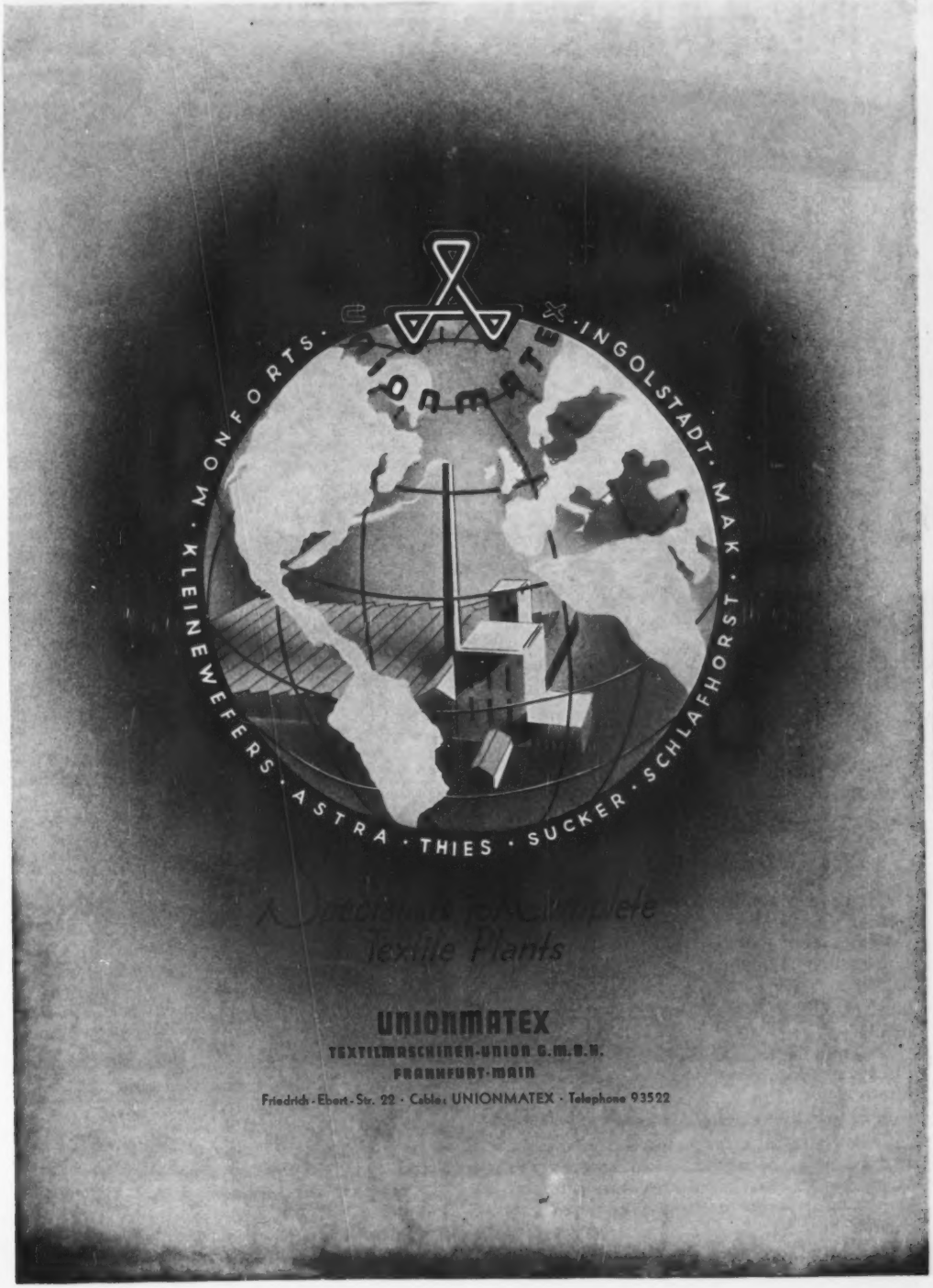
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Keep them spinning clean and free

with

Gulfspin

an outstanding new oil that reduces friction, wear, and cleaning costs

Gulfspin keeps spindles remarkably clean—much cleaner than ordinary spindle oils. Here's why: Gulfspin is not only highly resistant to the formation of sludge but also has the remarkable ability to prevent sludge from depositing on blades and bolsters. Result: reduced cleaning costs and end breakage.

Gulfspin has excellent load carrying characteristics which insure against excessive wear in cast iron bolsters. This means freedom from spindle wobble and lower maintenance expense.

This quality oil helps reduce starting torque in spindles, and it does not increase in viscosity even after long service. Thus power consumption is kept at much lower levels than are possible with ordinary spindle oils. And it helps protect spindle parts against rust.

Users of Gulfspin report a complete absence of sludge deposits and absolutely no increase in power consumption after months of service. See for yourself on your frames — that this new spindle oil is better in every way. Write, wire, or phone your nearest Gulf office and ask a Gulf Lubrication Engineer to call.

Gulf Oil Corporation · Gulf Refining Company

GULF BUILDING, PITTSBURGH, PA.

FIFTY YEARS OF SERVICE

1901 GULF 1951

PETROLEUM AND ITS PRODUCTS

Here is *Exactly WHY* a V-Belt with CONCAVE SIDES Gives You *Longer Wear!*

To see for yourself how a V-Belt that has *concave sides* is certain to give longer wear, just make this simple test:—

Pick up any V-Belt you have at hand. Bend that belt as it bends around a pulley. As it bends, grip its sides between your fingers. Here is what will happen *everytime*.

If the V-Belt you are testing has *straight sides*, you can feel those sides *bulge out* as the belt bends. This out-bulge forces the sides of the belt to press *unevenly* against the V-Pulley and you naturally get *concentrated* wear just where the bulge is greatest—as shown in figure 1-A, at right.

Now, make this same test with the belt that is built with *Concave Sides*—the Gates Vulco Rope!

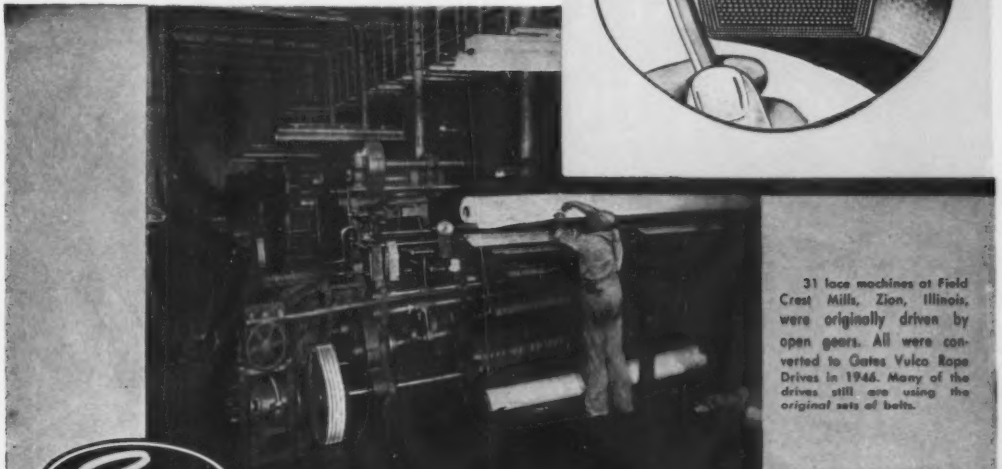
Whereas you felt an *out-bulge* when you bent a belt with straight sides, you find that the *Concave Sides* merely fill out and become *perfectly straight*. The sides therefore press *evenly* against the V-Pulley. This distributes the wear *uniformly* across the *full width* of the belt. Naturally, this means longer belt life and *lower* belt costs for you!

Only V-Belts made by Gates are built with concave sides. Whenever you buy V-Belts, be sure that you get the V-Belt with the Concave Sides—The Gates Vulco Rope!

What Happens When a V-Belt Bends

How Straight-Sided V-Belt Bulges in Sheave-Groove. Sides Press Unevenly Against V-Pulley Causing Extra Wear At Point Shown by Arrows.

The Concave Sides Fill Out to a Precise Fit in the Sheave Groove. No Side Bulge! Sides Press Evenly Against the V-Pulley — Uniform Wear — Longer Life!



31 lace machines at Field Crest Mills, Zion, Illinois, were originally driven by open gears. All were converted to Gates Vulco Rope Drives in 1946. Many of the drives still are using the *original* sets of belts.

CS-517

Gates
Hose V-Belts Molded Rubber Goods

VULCO ROPE **DRIVES**
ENGINEERING OFFICES AND RUBBER STOCKS
IN ALL INDUSTRIAL CENTERS

THE GATES RUBBER COMPANY
DENVER, U. S. A.
The World's Largest Makers of V-Belts

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Your Most Logical Source

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The Entire Family of INTERCHEMICAL TEXTILE COLORS

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ARIDYE PIGMENT COLORS

400 Series Colors . . . for pigment printing cotton, rayon, nylon, Orlon and other natural and synthetic fibers.

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INTERCHEM DYES

Acetate Dyes . . . for dyeing and printing acetate, nylon and other synthetic fibers.

Formaldehyde Black . . . for dyeing cotton and particularly rayon for pure white discharge styles.

Naphthols and Bases . . . for dyeing cotton and other fabrics.

ARIGEN DYES

Arigen Dyes . . . stabilized azoic colors for printing cotton and other fabrics. Recommended for printing in conjunction with Aridye Pigment Colors to provide a wide range of color combinations not otherwise readily or economically obtained.

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Powder and Dispersions . . . fungicides for use on a wide range of woven and non-woven textiles to prevent or retard mildew and rot for both military and civilian requirements.

Write for full details today. Interchemical Corporation, Textile Colors Division, Hawthorne, N. J.

Buy the right HYSTER® 20 to fit your particular job

The *right* Hyster 20 lift truck, with the *right attachments, tools* and accessories, becomes the greatest cost cutting machine in the entire *field of materials handling equipment.*

6 variations of one basic model...select the one that best suits your needs

What lifting and transporting capacity do you require from a lift truck? In the HYSTER 20 you can have a model with—

1) **2000 lbs.** capacity at 15" load centers (Standard Hyster 20)
2) **2000 lbs.** capacity at 24" load centers (Optional additional counterweight added to Standard 20)
3) **1300 lbs.** capacity at 15" load centers (Skeleton counterweight)
4) **1000 lbs.** capacity at 24" load centers (Skeleton counterweight)
5) **2000 lbs.** capacity at 15" load centers (Skeleton counterweight plus optional additional counterweight)
6) **1500 lbs.** capacity at 24" load centers (Skeleton counterweight plus optional additional counterweight)

Where the transporting of 2000 lbs. on 24" load centers is a prime requirement, the installation of the additional optional counterweight to the standard 20 model achieves the necessary result.

The Hyster 20 with skeleton counterweight is of great importance where floor load limits exist; where elevator lifting capacities are materials handling factors; and where a high percentage of the loads are in the 1000 lb. range.

By quickly installing the additional optional counterweight to this same Hyster 20 with skeleton counterweight, lifting capacities are increased from 1300 lbs. to 2000 lbs. at 15" load centers; and increased from 1000 lbs. to 1500 lbs. at 24" load centers. This gives the owner a 2 in 1 lift truck combination.

Why carry around extra weight?

The Hyster 20 for 1300 lbs. at 15" load centers or 1000 lbs. at 24" load centers has a skeleton counterweight that reduces the weight of the standard Model 20 by 600 lbs. This light weight but heavy duty fork lift truck will cut maintenance and operating costs; yet it will provide the maximum lifting and transporting capacities required in a great many industries.

The additional optional counterweights can be installed in less than 30 minutes; removed in much less time.

See your Hyster dealer for further information.

HYSTER COMPANY

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ACEC

Integral Horsepower Electric Motors— ¾ to 200 hp.

Motors made by one of the largest manufacturers of electrical equipment on the continent . . . the 70-year old firm, Ateliers de Constructions Electriques de Charleroi of Belgium . . . are now stocked—¾ to 200 horsepower—in six U. S. cities, making it possible for American customers to receive immediate deliveries out of warehouse inventories.

Manufactured strictly to **NEMA FRAMES AND SPECIFICATIONS,** *ACEC motors for 3 phase current incorporate the electrical and mechanical excellence that only long experience and scientific research can produce. The ACEC of Belgium has long specialized in the complete equipment of power stations throughout the world. Quite natural, therefore, that ACEC motors enjoy world-wide recognition.*

Branches and representatives of ACEC blanket 50 countries of the globe. Service in the United States alone is available from **232 DISTRIBUTORS AND SERVICE SHOPS.** *Write, wire or telephone your requirements.*

All ACEC Motors are FULLY GUARANTEED

Available in the following types:

- Open Drip Proof Motors
- Totally Enclosed Fan Cooled Motors
- Pump Motors:
  - Style "C" Face Mounted
  - Style "P" Vertical Solid Shaft Submersibles
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- Adjustable Speed Salvage Motors.

Motors exceeding 200 hp. are built to order.

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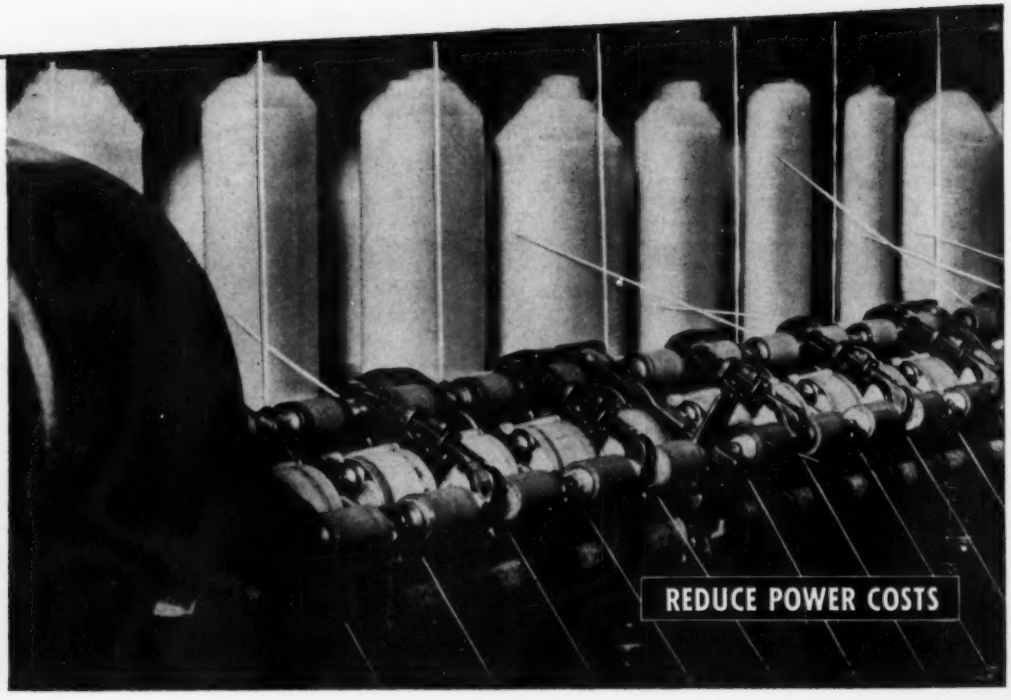
Tests Show How to CUT BOLSTER WEAR —Save Replacements



Two-year field tests show that Sinclair Compounded Lily White Oils, AX, BX, CX, cut bolster wear up to two-thirds!

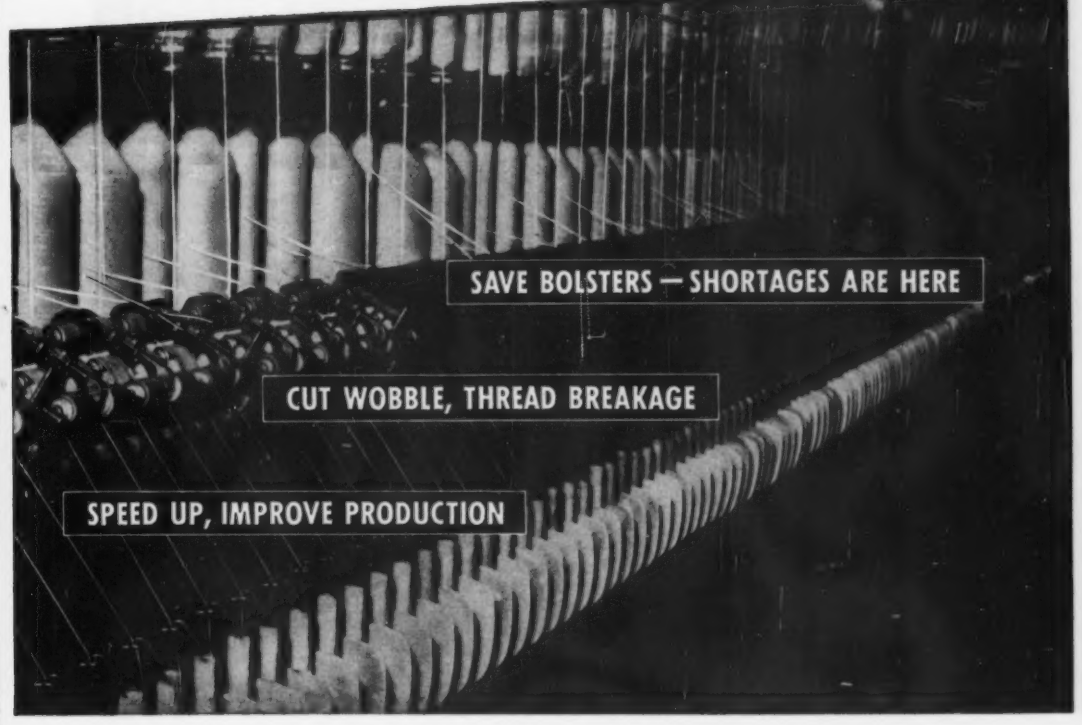
This oil can thus save a lot of bolster replacements—especially important in these days of shortages. Less wear also means less spindle wobble, thus reducing power demand and thread breakage and permitting use of a larger package.

All together, these advantages make Sinclair Lily White Oils important assets to any textile mill.

2/3rds

SINCLAIR
TEXTILE LUBRICANTS
Save Wear and Replacement

For lubrication counsel see your nearest Sinclair Representative or write direct to Sinclair Refining Company, 600 Fifth Avenue, New York 20, N. Y.



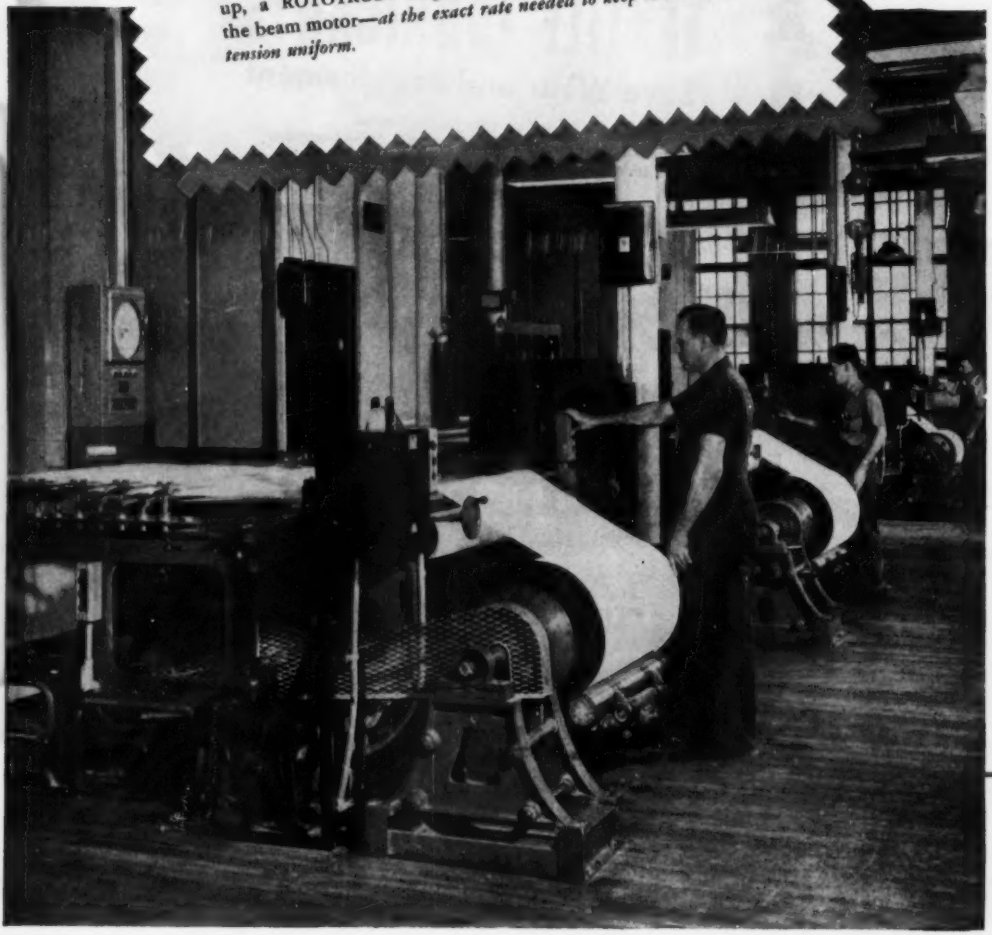
YOU CAN BE **SURE**.. IF IT'S

Westinghouse

How slasher speed was safely doubled

Here are the three Westinghouse-equipped slashers now doing the work of six—because slasher speed was safely doubled.

It was possible because Westinghouse drives hold yarn tension constant. The size box, delivery roll and beam are each driven by a separate motor. And as the beam builds up, a ROTOTROL® Regulator automatically slows down the beam motor—*at the exact rate needed to keep the winding tension uniform.*



New drive saves cost of running three slashers

Three slashers replace six; speed safely doubled by precise tension control

By switching to slashers with new Westinghouse Multi-Motor Drives and Uxbridge "Gentle Air" drying units, Borden Mills at Kingsport, Tennessee, now operate only three slashers where they formerly required six. And *production has been maintained.*

The three-for-six trade is possible because the new slashers run at 85 to 100 yards per minute, as compared with 40 to 45 yards per minute for the old units. These high speeds are safe because the Westinghouse drives hold yarn tension constant. Despite the speed doubling, slasher stoppages due to yarn breakage have been held the same or lower!

BEAMS MORE UNIFORM, TOO

The beams produced are now more uniform. The controlled tension makes the yarn hug the beam evenly—with no soft spots to snag yarn and cause breakage during weaving. These smooth-wound beams give straighter warp on the loom, permit better filling spacing.

MORE WARP PER BEAM

With tension uniform, these slashers wind more warp per beam. This means fewer beam changes—a saving in handling costs and fewer slasher and loom interruptions for starting new beams. Drawing-in costs are reduced in proportion to the decreased number of beams.

LESS SLASHER ROOM MAINTENANCE

The Westinghouse Slasher Drive has eliminated the friction clutch and all the headaches that go with it. Here's something to make the maintenance man happy: No bevel gears or line shafts. No overheating. Less friction and fewer passes with the grease gun. No alignment problems.

OVER 150 DRIVES IN USE

More than 150 Westinghouse Multi-Motor Slasher Drives are now in service. They can cut costs in *your* slasher room and give *you* better and faster weaving. Get the facts: Call your nearby Westinghouse office or write for Booklet B-4597. Westinghouse Electric Corporation, P. O. Box 868, Pittsburgh 30, Pennsylvania.

J-94842

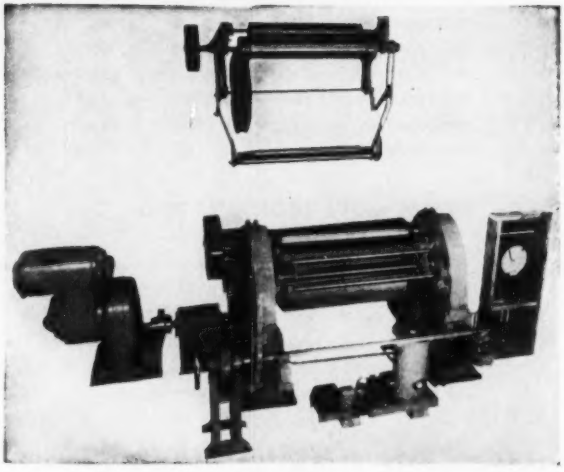
Westinghouse

EQUIPMENT FOR THE TEXTILE INDUSTRY

. . . Calender Rolls, both new and refilled, of all types, from America's most complete line of filled rolls, well deserve to be called "America's Finest" because of their long life and better performance.

We've Named These "Appleton" --you'll call them "America's Finest"

. . . Two Roll Embossing Calender . . . compact, ruggedly built . . . designed to operate with a minimum of power and maintenance . . . offers these features — 10″ Bored Steel Roll, 20″ APPLETON Special Wool Felt Roll, Air Pressure Cylinder with Recording Chart, Anti-Friction Bearings, Force Feed Oil Lubrication, Ceiling Folder, Direct Motor Drive with Variable Speed. Truly "America's Finest".



Custom Builders of Textile Finishing Equipment - Friction Calenders
Silk Calenders - Schreiner Calenders - Milling Calenders

AHCO PRODUCTS

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CONSTANT COLOR *Day or Night*

DYE YOUR WORSTED WITH

AHCOQUINONE BLUE AH

AHCOQUINONE BLUE AH becomes a bright greenish-blue shade under artificial light and thus helps to offset any tendency of other dyestuffs in mixtures to show a redness under these conditions. This dyestuff, which is suitable for use by the acid or any chrome dyeing methods, has all the normal fastness properties of the better anthraquinone blues. Use it to keep your combination shades uniform under any lighting conditions.

Ask about AHCOQUINONE BLUE AH for Dyeing to Government Specifications.

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Meets OG 108 Fastness Requirements and Facilitates Control of Shade Change in Artificial Light

If you make textiles...

(No matter how you make them, you need detergents.)

the Armour man is the man to see because he has more different soaps and synthetics than anybody!

(He's bound to have just the ones you need. Write him today.)

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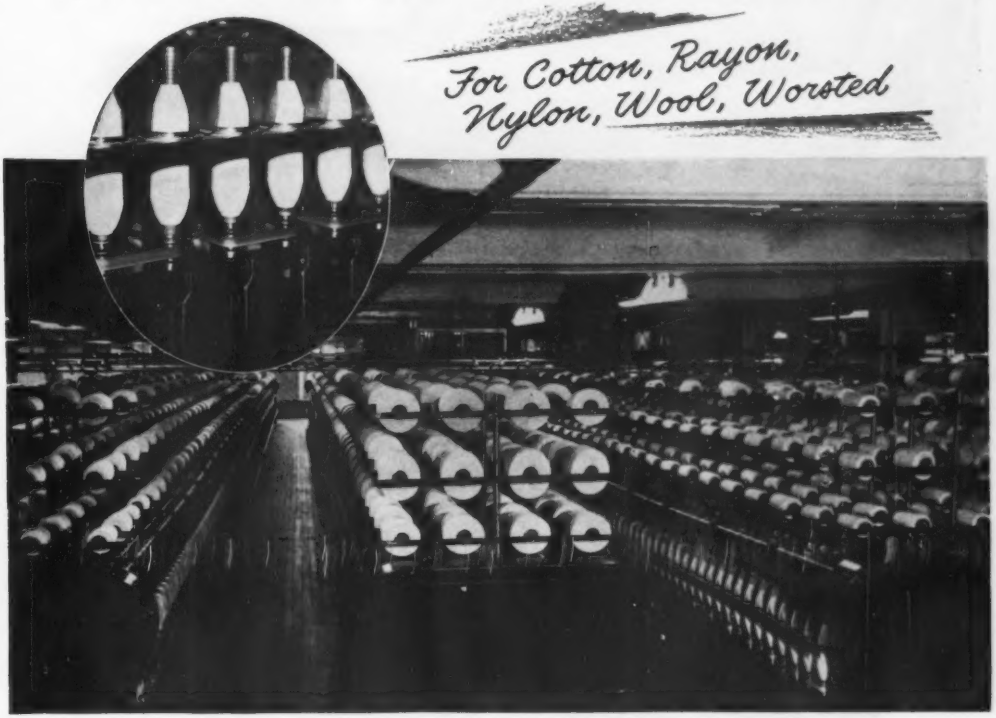
Marquette ROLLER BEARING SPINDLES

WITH FULL-FLOATING FOOTSTEP BEARING....

For Cotton, Rayon, Nylon, Wool, Worsted



• A series of tests in this mill have proved that the 12,028 Marquette Twister Spindles equipped with exclusive internal brake *increased production by more than 50 per cent.* That's because these spindles are running at high speeds with heavy packages. They require no more power than the spindles that were replaced.

You too can get greater production and reduce your costs by using Marquette Roller Bearing Spindles. *Let us prove this through a test installation.* Contact our home office or one of our representatives for full details.

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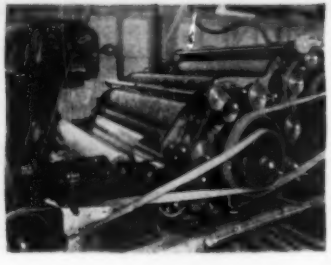
The Marquette METAL PRODUCTS CO.
CLEVELAND 10, OHIO

Also Manufacturers of: HYDRAULIC GOVERNORS • FUEL OIL PUMPS • FUEL OIL INJECTOR
WINDSHIELD WIPERS FOR AIRCRAFT, TRUCKS AND BUSSES • PRECISION PARTS AND ASSEMBLIE

PRIME FACTOR for BETTER CARDING



—*with 135 bearings engineered by* SKF

Duesberg-Bosson of America, Inc.* in designing this Woolen Card built-in these performance factors . . . effective and efficient manner of carding of wool, impressive high rate of production, noticeable enhancement of quality, with low maintenance and operating costs. To help guarantee such performance, Duesberg-Bosson's design calls for 135 SKF bearings. And 2200 Duesberg-Bosson Patented Peralta Machines are in operation in American and Canadian mills—equipped with SKF bearings. That's the reason one manufacturer relies on SKF—a good reason why SKF can help you to put the right bearing in the right place.

7230

*For complete details on woolen cards as built by Duesberg-Bosson, write the Company at Fitchburg, Mass.

8 REASONS WHY SKF IS PREFERRED BY ALL INDUSTRY

integrity
craftsmanship
metallurgy
tolerance control
surface finish
product uniformity
engineering service
field service

SKF

SKF INDUSTRIES, INC., Phila. 32, Pa.
manufacturers of **SKF** *and* HESS-BRIGHT *bearings*

Textiles

Key to beauty in American Living

The alluringly beautiful gowns of lovely American women! Draperies that frame windows and doorways with charming elegance! Upholstery that combines distinctive styling with comfort and long service! Rugs and carpets that are luxuriously soft! And in all these, the appealing symphony of tasteful color! Textiles . . . in scores of ways and places, and for everyone in the home, they provide the real measure of enjoyment and utility in American living!

In spinning and weaving, Dayton Rubber Textile Products are of vital importance to the creation of this better way of life. These pages tell briefly how this service to beauty is performed.

Dayton Rubber Company

TEXTILE DIVISION • Woodside Building, Greenville, S. C.

Yarns from the simplest to the most luxurious, are the foundation for all fabrics.

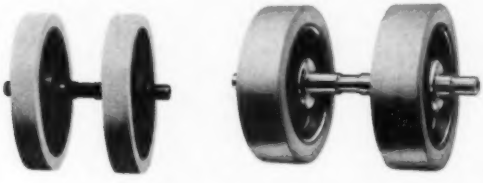
Beauty begins with the spinning of yarn and the spinning of yarn in thousands of textile plants around the world begins with Dayco

Dayco Roll Coverings

Millions and millions of Dayco Cots are now in use in textile mills throughout the world! Constantly improved compounding has produced a roll covering with the highest fiber repellence, longer life, and complete fiber versatility—use it on cotton, wool, blends, synthetics. Fewer lap-ups, fewer ends down, cleaner yarn. Unaffected by humidity or temperature.

Dayco Long Draft Apron

This precision-made apron is completely uniform in thickness, diameter, and width. That's why it yields up to 10% more uniform yarn. Dayton's exclusive method of marking for two-apron systems, gives a perfect fit regardless of age or type of cradle. They last longer—won't curl, split, crack, break, distort, stretch or groove.



Dayco Woolen & Worsted Cots

Every year these famous Cots go on to establish new records for service life. Give more uniform yarn, whether wool or any combination of wool, rayon or mohair. Less matching-up required. Years of service with no grooving, deterioration, nor change in friction quality.

DAYTON RUBBER TEXTILE PRODUCTS SERVE BEAUTY

Fabrics softly silent, elegant in luxury, adorn and serve homes and people of all classes.

Unmatched charm is woven into fabrics on modern high speed looms equipped with these famous Dayton Thorobred textile products

Thorobred Drop-Box Pickers

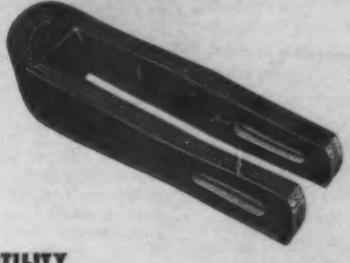
Dayton's Drop-Box Pickers are improved at the three vital points of picker operation—extra-hard at the spindle hole, firm but with "give" around the picker stick hole, soft for shock absorption at the shuttle contact point. All sizes to fit your looms.

Thorobred Loop Pickers

These newly developed pickers will last up to twice as long as old-style pickers. Design features rounded front edges that eliminate hanging filling, narrow back for free non-wear on lay-end strap, and flared bottom that makes picker stick easy to apply. Shuttles run cooler because Thorobred pickers run cooler. For high-speed as well as older type looms.

Thorobred Lug Straps

This is the famous lug strap you've read about—in recent U.S.A. tests with three other types, it outlasted every one! Built-in cushion protects cam points and picker sticks. Unaffected by temperature and humidity changes. Takes millions of picker stick blows without "fatigue" or stretching.



DAYTON RUBBER TEXTILE PRODUCTS SERVE UTILITY

Other Dayco and Thorobred Products for Spinning and Weaving

Dayco Slasher Roll, saves 15 to 30 minutes start-up time, because they require no preliminary preparation.

DAYCO

Dayco Condenser Tape, gives better roving, more roving per card. No stretch—holds its tension without frequent take-ups.

DAYCO

Sweepsticks, with perfect resilience, resist moisture, will not "grow."

Dayco Rub Aprons, last longer, unaffected by humidity or temperature. Highest friction co-efficient produces more uniform yarn.

Dayco Sponge Cone Pads, prevent ends from catching under base of cone. Their extra resilience protects the yarn.

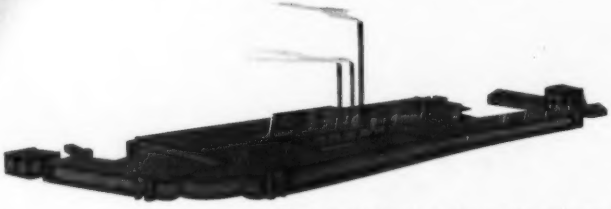
DAYCO

Hold-up Straps, of the strongest fabric and rubber composition.

DAYCO

Take-up Roll Coverings, high friction and holding qualities.

Home of Dayco and Thorobred Products



Here in the heart of the textile industry, at Waynesville, N. C., Dayton's textile engineers and scientists continually develop and improve new products for better spinning and weaving.

Dayton Rubber Company • Textile Division
Main Sales Office: Woodside Building, Greenville, S. C.
Factories: Dayton, Ohio • Waynesville, N. C.

Textile Products for Better Spinning and Weaving

Dayton Rubber

DAYCO

Frog and Loom Bumpers, designed for months of trouble-free and efficient service.

Reversible Picker Bumpers, maximum shock resistance, minimum distortion.

Doll or Tail Pickers, Bobbin Stripper Blades, Jute Loom Pickers, Spindle Rod Bunters and Bumpers.

Temple Rolls, resist abrasion, impervious to oils and chemicals.

DAYCO

giant steps in indust

Above, you see the memory tube of a mechanical brain . . . a man-made wizard that solves complex mechanical problems in a half-thousandth of a second; that can, for example, determine a shell's flight in less time than it takes the actual shell to hurtle from gun to target. A modern day miracle that not only does the *work* of man—but promises to do his *thinking,* too!

At your left you see an equally remarkable mechanism . . . Industrial Rayon Corporation's "thread advancing reel," an important element of the renowned Continuous Spinning Process . . . herald of a new day in the rayon industry.

On this reel I R C produces a virtually flawless yarn in miraculously little time. Yarn so uniform it set a new standard of quality for mills, cutters, converters throughout the entire world. A process so valuable it has been adopted by producers in Great Britain, France, Switzerland and other leading countries. A process so far ahead of its time, that today, 12 years after its introduction, it still remains unsurpassed.

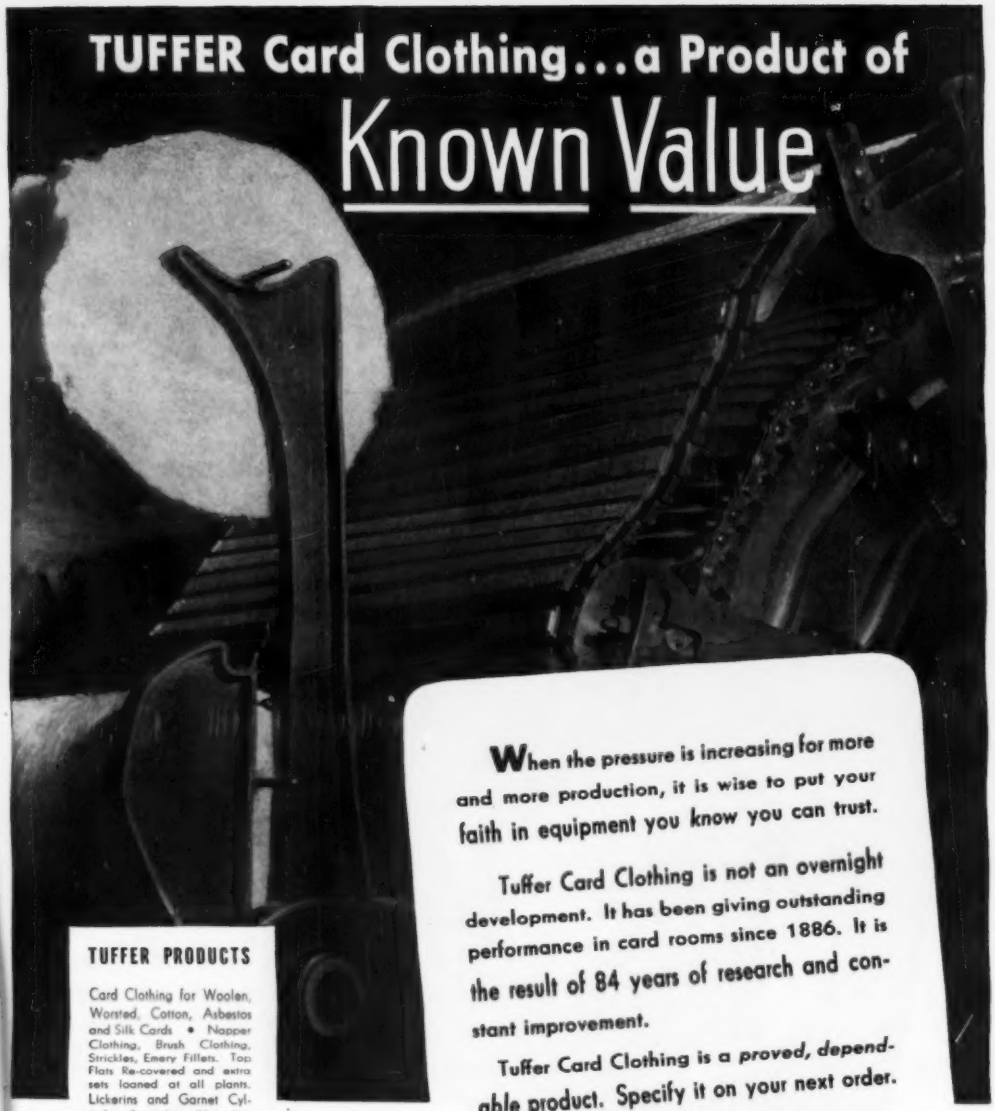
I R C is proud to have created this spectacular "thread advancing reel." If and when another rayon miracle appears . . . chances are, I R C will have a hand in its development!

Industrial Rayon Corporation

IRC

Cleveland, Ohio · Sales Office: 500 Fifth Avenue, New York 18, N. Y.

TUFFER Card Clothing...a Product of Known Value



When the pressure is increasing for more and more production, it is wise to put your faith in equipment you know you can trust.

Tuffer Card Clothing is not an overnight development. It has been giving outstanding performance in card rooms since 1886. It is the result of 84 years of research and constant improvement.

Tuffer Card Clothing is a *proved, dependable* product. Specify it on your next order. Let it prove itself on your cards.

TUFFER PRODUCTS

Card Clothing for Woolen, Worsted, Cotton, Asbestos and Silk Cards • Napper Clothing, Brush Clothing, Strickles, Emery Fillets. Top Flats Re-covered and extra sets loaned at all plants. Lickerins and Garnet Cylinders from 4 to 30 inches and Metallic Card Breasts Rewired at Southern Plant • Midgley Patented, and Howard's Special Hand Stripping Cards • Inserted Eye & Regular Wire Heddles

HOWARD BROS. MFG. CO. WORCESTER 8, MASSACHUSETTS

Southern Plants: Atlanta, Ga. and Gastonia, N. C.

Branches: Philadelphia, Pa. and Blanco, Texas *Direct Representation in Canada* A-4

TUFFER CARD CLOTHING *IMPROVES PRODUCTION ALL ALONG THE LINE*

Efficient Detergent for Cotton Piece Goods

Whatever your method of dyeing and finishing cotton piece goods, there are numerous places where Monsanto Santomerse No. 1, the all-purpose detergent and wetting agent, can serve you efficiently. It aids in giving fabrics a good bottom, assists in level dyeing. It reduces crocking and prevents insoluble metallic curds which cause spotting.

Among the varied uses of versatile Santomerse No. 1 are scouring after singeing . . . in the souring bath . . . in J boxes . . . in jigs . . . in scouring after kiering, bleaching, printing or acid aging . . . in high-speed continuous units.

Santomerse No. 1 is an alkyl aryl sulfonate, with a minimum of 40% active ingredient. It is a highly efficient detergent, wetter and penetrant. It holds particles of soil and unattached dyestuffs in suspension so they are whisked away in the rinse. Santomerse No. 1 is efficient in hard or soft water . . . in hot or cold solutions . . . in acid or alkaline baths. Santomerse No. 1 is an anionic detergent and prevents the formation of insoluble metallic curds in hard water.

For information on the use of Santomerse No. 1 in any textile operation requiring a detergent or wetter, contact the nearest Monsanto Sales Office or write MONSANTO CHEMICAL COMPANY, Phosphate Division, 1700 South Second Street, St. Louis 4, Missouri.

WHERE SANTOMERSE No. 1 SERVES TEXTILE INDUSTRY

RAWSTOCK

Cotton: Kier boiling, scouring, bleaching, dyeing.

Wool: Carbonizing, dyeing.

YARN

Cotton and Synthetic Fibers: Wetting out, dyeing, bleaching, scouring.

Wool: Carbonizing, scouring, dyeing.

PIECE GOODS

Cotton and Synthetic Fibers: Kier boiling, enzyme desizing, scouring, boiling off, bleaching.

Wool: Dyeing, scouring.

HOSIERY

Dyeing, scouring, bleaching, after treatment.

MONSANTO PHOSPHATES FOR TEXTILE INDUSTRY

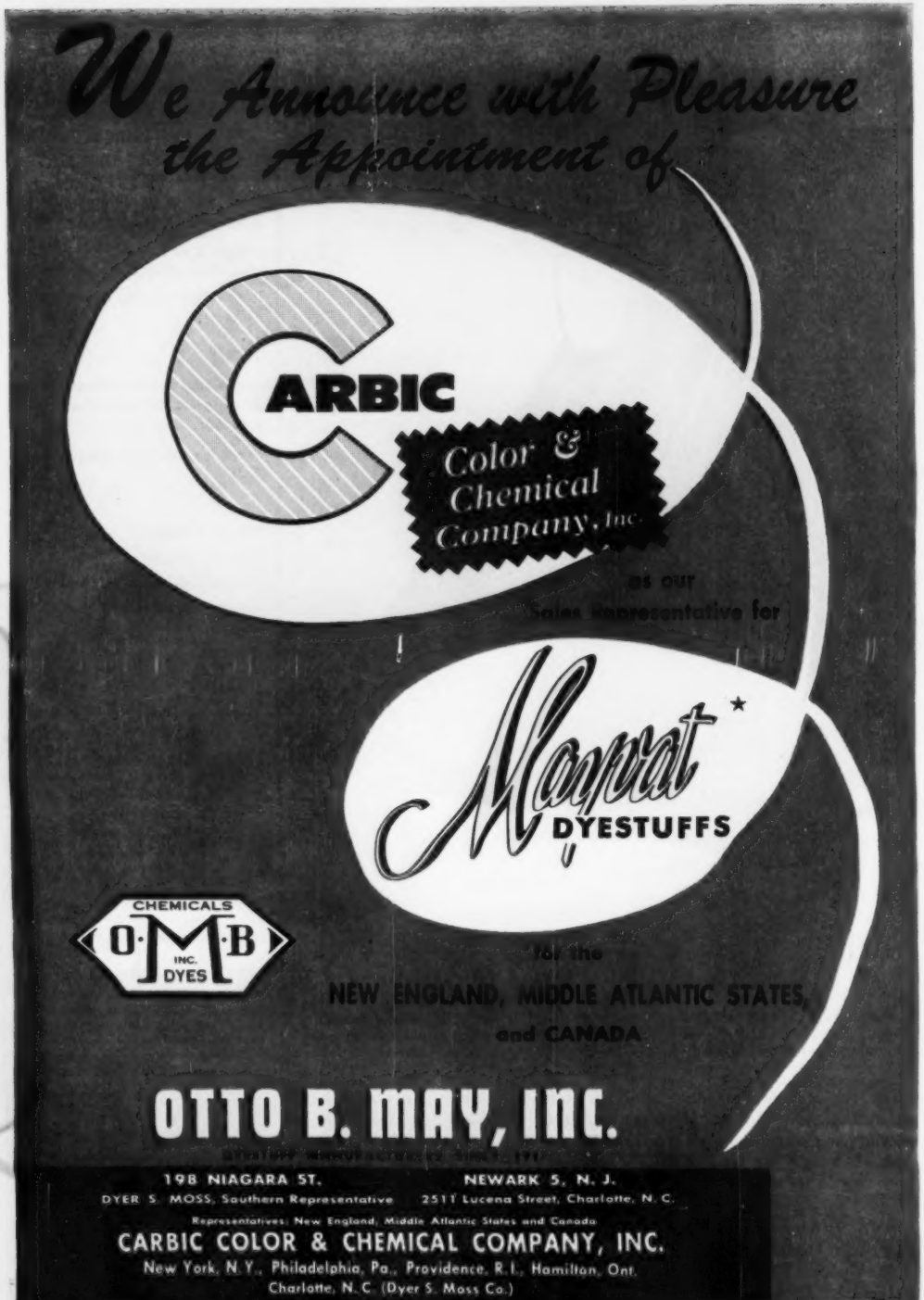
Mono Sodium Phosphate
Di Sodium Phosphate
Tri Sodium Phosphate
Tetra Sodium Pyrophosphate
Sodium Tripolyphosphate

DISTRICT SALES OFFICES: Birmingham, Boston, Charlotte, Chicago, Cincinnati, Cleveland, Detroit, Los Angeles, New York, Philadelphia, Portland, Ore., San Francisco, Seattle. In Canada, Monsanto (Canada) Ltd., Montreal.

Santomerse: Reg. U. S. Pat. Off.

MONSANTO
CHEMICALS – PLASTICS

SERVING INDUSTRY . . . WHICH SERVES MANKIND


We Announce with Pleasure
the Appointment of
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Color & Chemical Company, Inc.
as our
Sales Representative for
Maprat
DYESTUFFS
CHEMICALS
O·M·B
INC.
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Joins the famous family

PHARMOLS*

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PHARMAZOIDS*

Pharmazoids now joins the famous family of Pharmols and Pharmasols . . . Pharmazoids . . . stabilized diazotized bases which can be mixed with any available napthol to make a resultant Pharmasol.

Visit Us At Our Booth #25

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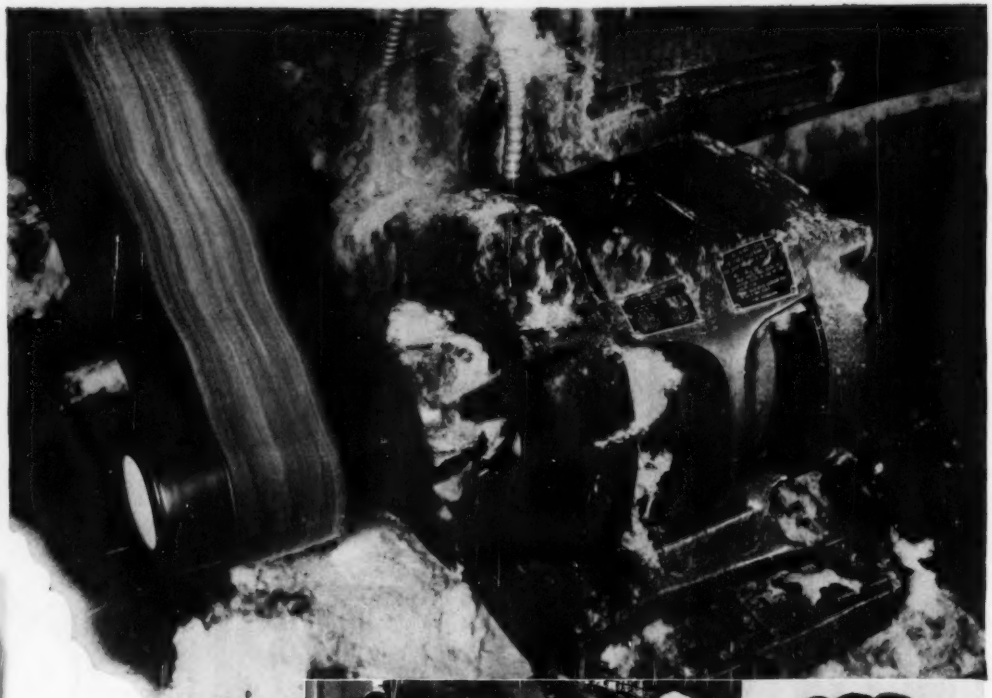
Importer of
the manufactures of
Durand & Huguenin S. A.
Basle, Switzerland

Exclusive Distributors of Pharmasols, Pharmols, Pharmazoids



Century

TEXTILE MOTORS

In Action – You can see the lint moving through the ventilating passages

Century Textile motors give you continuous, satisfactory service because they shed dust, dirt and lint. Smooth, clean passages permit cooling air to enter the motor through the end brackets.

There's a steady blast of air that circulates near the bearings, around the windings and out through the large air passages in the frame.

Lint and dust pass through the motor readily. This results in clean surfaces which radiate the heat, and permits the motor to operate at normal temperature.

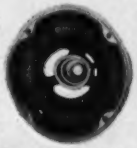
Century builds a complete line of electric motors from ⅛ to 400 horsepower in a wide range of types and kinds.

Specify Century for all your textile, or standard motor requirements.

Century Textile motors are rugedly built for long service life.

Strong, rigid cast iron frame, smooth contours permit free circulation of air.

Rotor assembly with ball bearings in place. Large fans assure adequate ventilation.



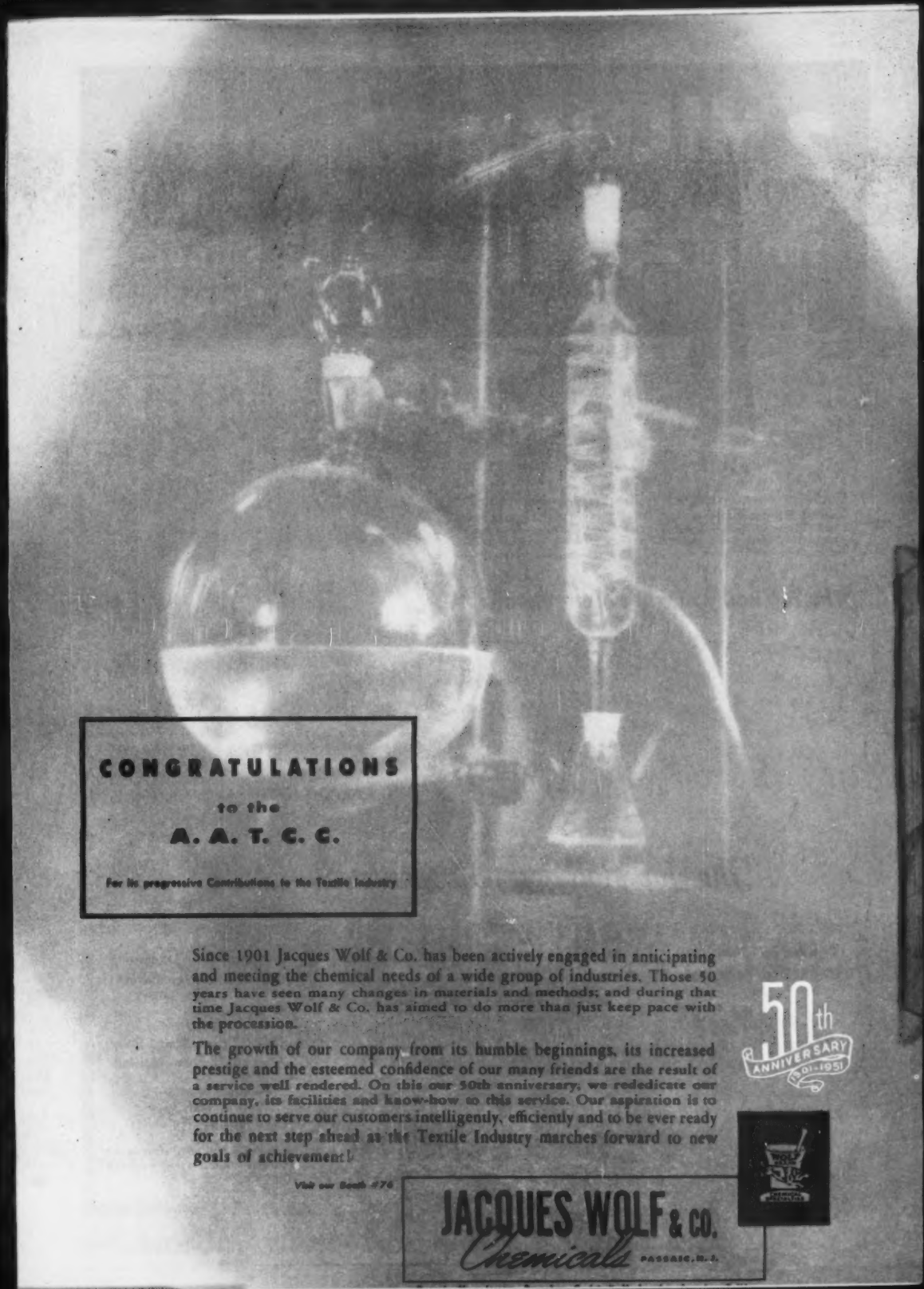
Rigid cast-iron end brackets help maintain alignment, help maintain smooth, quiet starting and running.

CENTURY ELECTRIC COMPANY
1806 Pine Street • St. Louis 3, Missouri
Offices and Stock Points in Principal Cities

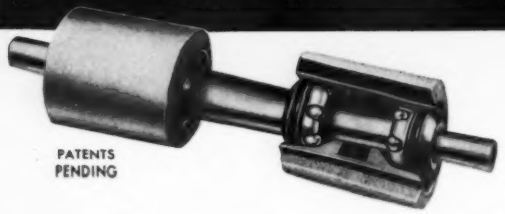
Century C MOTORS

Century Electric Company is celebrating its 50th year in the electrical industry

720


CONGRATULATIONS
to the
A. A. T. C. C.
For its progressive Contributions to the Textile Industry
Since 1901 Jacques Wolf & Co. has been actively engaged in anticipating and meeting the chemical needs of a wide group of industries. Those 50 years have seen many changes in materials and methods; and during that time Jacques Wolf & Co. has aimed to do more than just keep pace with the procession.
The growth of our company from its humble beginnings, its increased prestige and the esteemed confidence of our many friends are the result of a service well rendered. On this our 50th anniversary, we rededicate our company, its facilities and know-how to this service. Our aspiration is to continue to serve our customers intelligently, efficiently and to be ever ready for the next step ahead as the Textile Industry marches forward to new goals of achievement!
50th
ANNIVERSARY
1901-1951
Visit our Booth #76
JACQUES WOLF & CO.
Chemicals
PASSAIC, N. J.

2 MILLION CLIMAX TOP ROLLS Serving 4 MILLION Spindles



PATENTS PENDING

Within 4 years, acceptance by Textile Mills has totalled 2 Million Climax Ball Bearing Top Rolls for roving and spinning. These mills enjoy substantial direct savings, have fewer production interruptions, and report definite and desirable improvements in yarn quality. That is why we believe sincerely that CLIMAX is —

"The Top Roll you will eventually adopt"

The BALL-BEARING Top Roll

Each Roll has four ball bearings. So constructed and sealed that roll does not wind up lint nor leak lubricant. Only CLIMAX — among anti-friction top rolls—permits "integral re-covering" and "integral buffing", without disassembling.

"The Top Roll you will eventually adopt"

Climax Ball Bearing Top Rolls adopted by

Whitin

MACHINE WORKS

and supplied on Whitin machinery as standard where anti-friction rolls are required. Climax Rolls are available through Whitin Machine Works and all of their agents.

MACHINECRAFT, INC.

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Caixa Postal 5904
Sao Paulo, Brazil

Mexico:
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Avenida, Uruguay 55
Mexico, D. F.

For European Service:
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Leathley, Otley, Yorkshire, England

Only **CLIMAX**

among anti-friction rolls, permits INTEGRAL RECOVERING and INTEGRAL BUFFING—WITHOUT DISASSEMBLING.

Climax Ball Bearing Top Rolls are made for

- Cotton System Spinning Rolls for all standard and long-draft systems
- Cotton System Roving Rolls
- American System Worsted Rolls
- French and Bradford Worsted Rolls
- Wool Spinning Rolls

Climax Rolls are custom-made to suit your equipment and your weighting requirements.

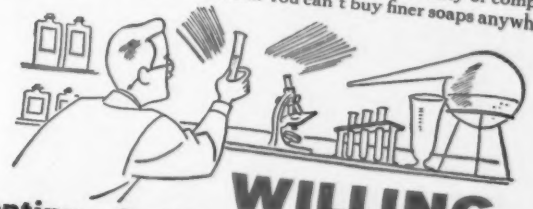
Rely on your

SWIFT'S SOAP TEAM!

See your local telephone directory for address of your nearest Swift & Company office.

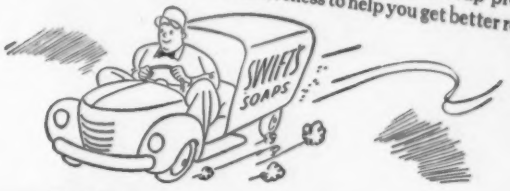
We're READY with quality soaps for every textile need!

You can always find the right soap for the job in Swift's complete line. Whether you need soaps for dyeing, fulling or scouring or any other specialized need, Swift's Soap Department is at your service. And you'll find that Swift's Soaps for textile uses have maximum uniformity of composition and excellent physical form. You can't buy finer soaps anywhere.



WILLING to continue Swift's research laboratory activities to develop better products for your purpose!

Our technical division is constantly working on textile problems. This means that Swift Soap products always have the quality and effectiveness to help you get better results.



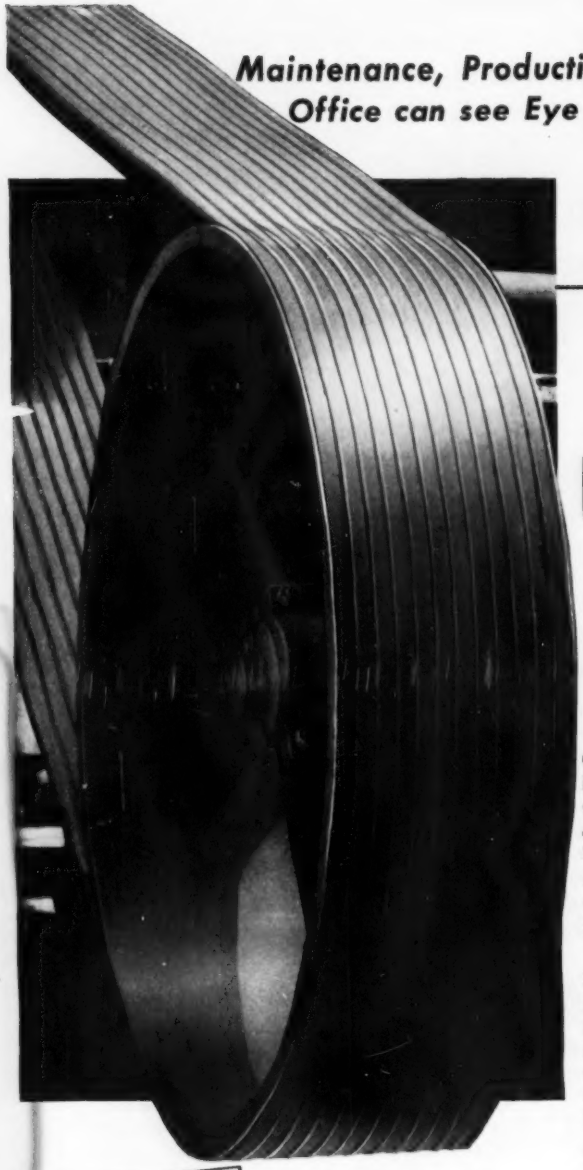
And ABLE to give fast service from Swift distribution points coast to coast!

You can order any of the fine soaps listed below and expect immediate delivery. Remember—use good soap and enough of it! Good soap promotes economy for you . . . better products for your customers. *Vertex Flakes* • *557 Flakes* • *White Ribbon Flakes* • *Wool Flakes*

Plus other special formulations to meet your specifications.

Call SWIFT first for soaps

Maintenance, Production, Purchasing and Front Office can see Eye to Eye on <u>this</u> "Baby"



It's a TOUGH, LONGER-LASTING BULL DOG V-BELT!

Yes, a Bull Dog V-Belt has something for everybody. Your engineers and production heads who have enough on their minds already with shortages and the necessity for increased output will appreciate the SPECIALLY ENGINEERED BWH CORD SECTION and its high tensile strength. They'll get the superior load carrying capacity from BULL DOGS and the ability to absorb shock loads that's needed.

Your maintenance men (engineers, too) will note the QUALITY CONTROLLED COMPOUNDS developed by BWH which run cooler and do not crack or deteriorate under severe flexing. They'll probably note also the MINIMUM STRETCH — due to a new and exclusive technique in processing Bull Dog Cords. They'll be *sure* to note the less slippage, fewer adjustments, longer belt life that results.

Your maintenance men will also okay the Bull Dog V-Belt's DURABLE COVERS. They're made of closely woven, heavy, bias-cut fabric that takes the torturous wearing action where the belt meets the sheave — seals it against the penetration of dirt, grease and moisture.

With it all adding up to less money *out* in belt repairs and replacements and more money *in* from maintained and increased production . . . don't you think Purchasing and the Front Office will be glad to go along?

BWH
DEPENDABLE RUGGEDNESS

TOUGH PROBLEMS INVITED!
Ask us or your nearest BWH distributor about your power transmission belting, conveyor belting or hose problems. We're specialists in making mechanical rubber products work *better, longer.*

Another Quality Product of

BOSTON WOVEN HOSE & RUBBER CO.

Distributors in all Principal Cities

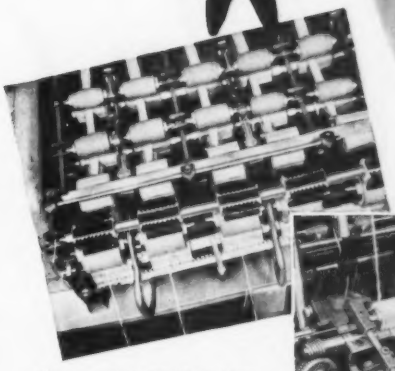
PLANT: CAMBRIDGE, MASS. • P.O. BOX 1071, BOSTON 3, MASS., U.S.A.

It processes worsted, worsted and synthetic blends

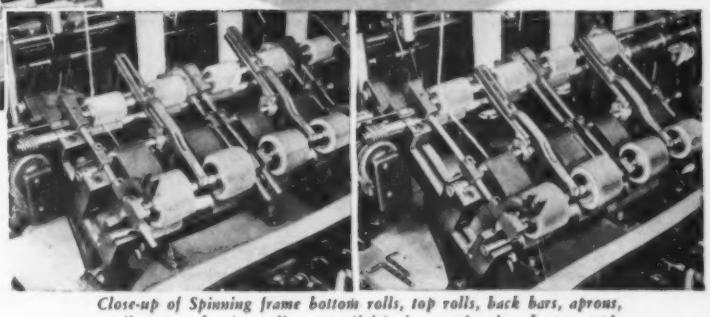
It reduces the number of processes required

It saves money . . . produces quality yarn

. . . it's the AMERICAN SYSTEM



Close-up of Super-Draft Roving frame showing bottom rolls, top rolls, back bars, aprons, cradles, etc., as assembled for operation on the American System.



Close-up of Spinning frame bottom rolls, top rolls, back bars, aprons, cradles, etc., showing rolls set to (left) close setting for shorter staple lengths and (right) open setting for longer staple lengths.

The Whitin-developed American System for processing worsted, and worsted and synthetic blends is a highly flexible, economical and efficient system for processing quality yarns. The outstanding characteristic of this new system is the sharp reduction in the number of processes required — sometimes as much as 50% — with a consequent reduction in the number of machines needed.

Specially designed aprons for both roving and spinning assure more accurate fiber control and permit the use of much higher drafts. Roll stand settings are also increased to allow the drafting of longer fibers. The system will process fibers from 1½ inch up to 7 inch staple and worsted counts up to and including 40's.

The American System can be supplied on new equipment or applied to both roving and spinning frames as a changeover on most American-made machines. In either case, it permits a material reduction in machine investment, saves floor space and cuts operating costs.

Write today for illustrated folder giving additional information about The American System.

Whitin MACHINE WORKS

WHITINSVILLE, MASSACHUSETTS

CHARLOTTE, N. C. • ATLANTA, GA. • SPARTANBURG, S. C. • DEXTER, ME.

New growth for America's

Ever increasing demand for Fiberglas* yarn has required rapid expansion of our manufacturing facilities. The newest Fiberglas yarn plant has just been completed at Anderson, South Carolina, and is now swinging into capacity production.

The demand for Fiberglas yarn stems from its successful use in a diversity of important applications. As our laboratories and plants have developed new and improved Fiberglas materials, alert weavers, converters, and manufacturers have put them to work. As a result, they have discovered unprecedented market opportunities.

The Armed Forces are also demanding large quantities of Fiberglas yarns. The same combination of Fiberglas characteristics that has given such remarkable performance qualities to civilian products is important in vital military equipment.

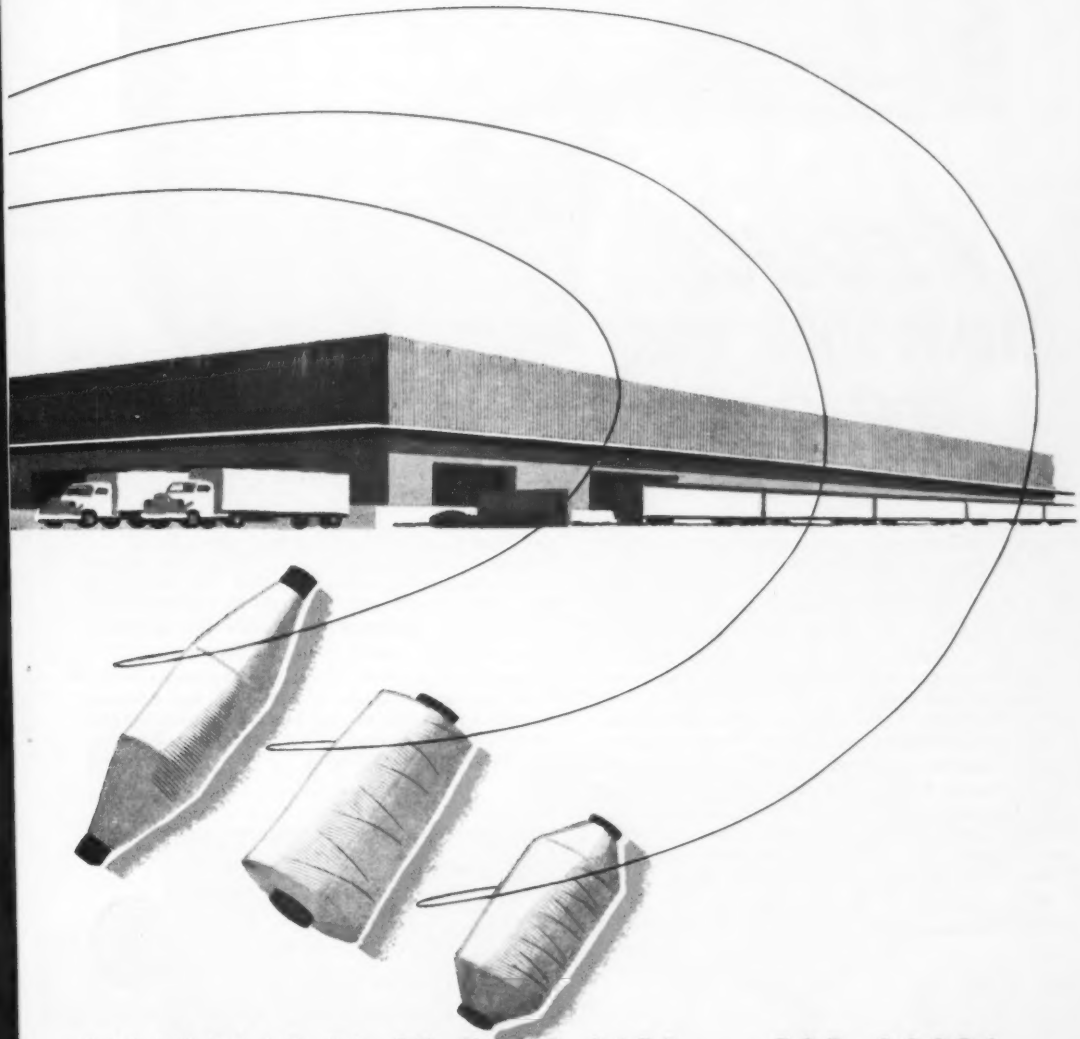
While military needs must, of course, come first, we believe that our new plant, plus the new production facilities now being added in existing mills, will help keep pace with your needs.

Owens-Corning Fiberglas Corporation,
Textile Products Division,
16 E. 56th St., New York 22, N. Y.

OWENS-CORNING
FIBERGLAS
Yarns

*Fiberglas is the trade-mark (Reg. U.S. Pat. Off.) of Owens-Corning Fiberglas Corporation for a variety of products made of or with fibrous glass.

fastest growing fiber!



FIBERGLAS IS IN YOUR LIFE . . . FOR GOOD!

YOU CAN BE **SURE**.. IF IT'S

Westinghouse

The time to fight fire is *before* it starts. A fire caused by lint and dust reaching the contacts of an ordinary loom motor starter *could* destroy your entire mill. The answer to eliminate this hazard is the new Westinghouse Gasketed, Lint-Tight Loom Motor Starter. Designed in collaboration with the engineering division of the Associated Factory Mutual Fire Insurance Companies and leading textile manufacturers, it is aimed specifically at reducing weave room fire hazards.

Lint and dust is kept out! A special Neoprene gasket forms a positive, continuous seal between the box and cover. Pressure from the cover clamp makes sure every crevice is filled with the pliable Neoprene gasket . . . positive assurance that combustible elements cannot enter the enclosure. Thus, one major cause of weave room fires is stamped out before it can start!

When you specify Westinghouse you get other valuable "extras", too—Positive Disc-Type, Bimetallic Overload Protection with no fuse replacements . . . "De-ion®" Arc Quenchers . . . an all-new, rotary handle mechanism with no possible way for lint to enter the enclosure—that cannot be kicked or bumped "on" or "off" inadvertently . . . and line terminals either at top or bottom upon specifications.

Ask your nearby Westinghouse representative to show you the new Gasketed, Lint-Tight Loom Motor Starter on your desk top! Ask him for a copy of B-5256 or write Westinghouse Electric Corporation, Box 868, Pittsburgh 30, Pennsylvania. J-30039

Westinghouse
LINT-TIGHT
LOOM MOTOR STARTERS

These men speak your language

WHETHER it's the U S sales representative who calls on you, or the U S design and production engineers who back him up, you'll find they all "speak your language".

When you specify the performance standards you require, you can be sure they will be fully understood and achieved by these *specialists.* Their full-time job is delivering the best yarn carriers that money can buy, and the proof of their aptitude is the U S 93-year record of leadership.

Whether you are equipping a new mill or replacing worn out carriers, talk to a U S representative first. You'll find it pays . . . in better yarn and fabric quality, and in lower operating costs.

U S owned timber properties permit complete control of wood stock selection and every step in processing, from forest to finished products. Five manufacturing plants, North and South, provide ample facilities to produce and deliver promptly the cost-saving yarn carriers you need, in any quantity.

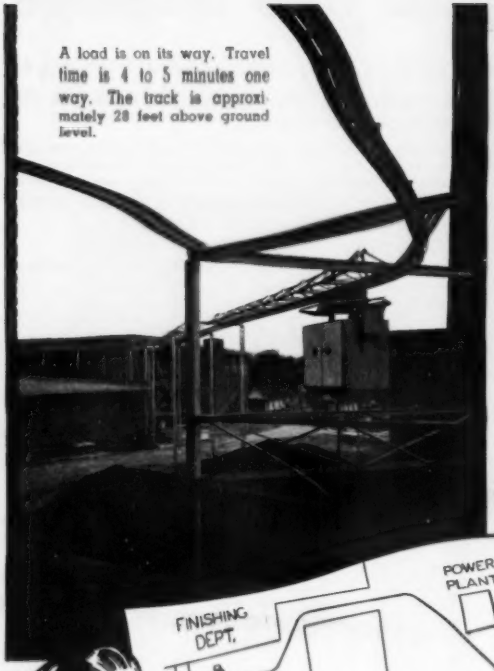
Anywhere in textile America, you are near the headquarters of a U S specialist in yarn carrier selection. He'll call at your request.

U S BOBBIN & SHUTTLE CO.

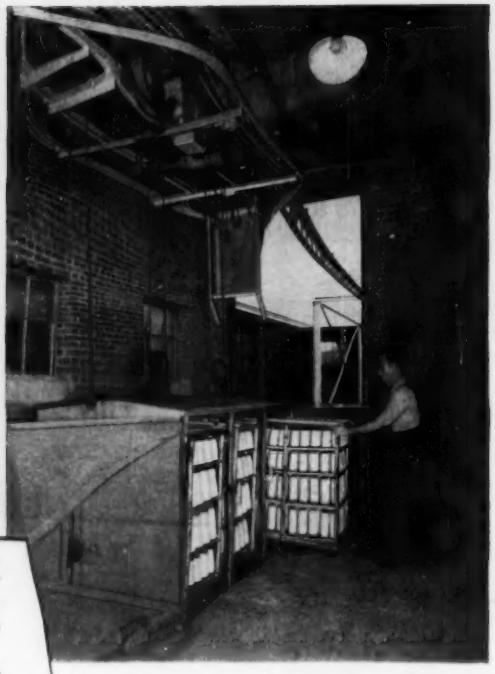
LAWRENCE, MASS. PROVIDENCE, R. I. • PHILADELPHIA, PA. JOHNSON CITY, TENN. •

GREENVILLE, S. C. • CHARLOTTE, N. C. • MINNEAPOLIS, MINN.

CHICAGO: Albert H. Brown, 80 E. Jackson Blvd., • LOS ANGELES: E. O. Paules, 1762 W. Vernon Ave. • DALLAS: O. T. Daniel, Textile Supply Co. • CANADA: W. J. Westaway, Montreal, Que., Hamilton, Ont.



A load is on its way. Travel time is 4 to 5 minutes one way. The track is approximately 28 feet above ground level.



Four trucks are accommodated by the Tramrail freight van, which, at the press of a button, is on its way without attendant. The van stops and lowers automatically at each end of the system. In fair weather or foul it travels with safety and dispatch. Points on each end of Tramrail carrier guard pry open doors of loading station automatically. The system requires very little building space because it need not be enclosed.

SAVES $7000 PER YEAR with AUTOMATIC DISPATCH SYSTEM

AN enclosed freight carrier shuttling over a 666 foot Cleveland Tramrail archbeam track between the Twisting and Finishing Departments of the China Grove Cotton Mills Co., China Grove, N. C., is saving $7000 per year.

This system has eliminated a drudgery that was disliked by labor and costly to management. No longer is it necessary for men to push and lug floor trucks up ramps, on elevators and over long walks between the buildings. No longer is the work held up because of rain or inclement weather. Frequent accidents from manual hauling are done away with.

For the investment involved, this automatic system is paying large dividends in profits and convenience for this mill which is one of the largest producers of thread yarn in the South.

GET THIS BOOK!
BOOKLET No. 2008. Packed with valuable information. Profusely illustrated. Write for free copy

CLEVELAND TRAMRAIL DIVISION
THE CLEVELAND CRANE & ENGINEERING CO.
8473 EAST 287th ST. WICKLIFFE, OHIO

CLEVELAND TRAMRAIL
OVERHEAD MATERIALS HANDLING EQUIPMENT

"Nothing is more important in the manufacture of women's hosiery than good knitting"

says JACQUELINE FISHER,

Women's Hosiery Buyer, Broadway Department Store, Inc., Los Angeles

And good knitting is also of paramount importance in assuring the continued sales-success of your brand. That is why so many leading mills zealously guard the quality of their merchandise by always insisting on

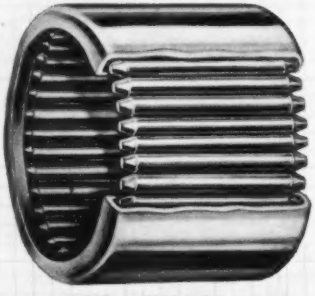
TORRINGTON

SPRING BEARD NEEDLES · SINKERS · DIVIDERS · SPLIT DIVIDERS

THE TORRINGTON COMPANY, Torrington, Conn., U. S. A.
Established 1866

Branches: New York · Philadelphia · Chicago · Greensboro, N. C. · Boston · St. Louis
Toronto, Can. · *Pacific Coast Representative:* E. G. Paules, 1762 West Vernon Ave., Los Angeles 37, Calif. Broadgate House, 7-10 Eldon St., London E. C. 2, England

...with plenty to spare



Torrington Needle Bearings have cleared the exacting specifications for use in countless products carrying the most famous names in American industry.

Leading manufacturers in the automotive, aircraft, farm machinery, textile equipment, machine tool and many other fields have found that Needle Bearings more than meet their rigid standards of quality and performance.

If you'd like to know more about the high load capacity, long service life, weight- and space-savings and other advantages of Torrington Needle Bearings in terms of your own product, our engineers will be glad to help.

THE TORRINGTON COMPANY
Torrington, Conn. • South Bend 21, Ind.
District Offices and Distributors in Principal Cities of United States and Canada

TORRINGTON *NEEDLE* BEARINGS

NEEDLE • SPHERICAL ROLLER • TAPERED ROLLER • STRAIGHT ROLLER • BALL • NEEDLE ROLLERS

How you save time and money with

Pittsburgh CARGOTAINERS

Substitute Pittsburgh Cargotainers for your old-time handling equipment and you'll find they rapidly pay for themselves in man-hours. Cargotainers are designed to move through every mill operation without unloading and reloading. They are easily moved with lift truck or dolly — they stack or fold — and are ruggedly built for either temporary or permanent storage. Cargotainers are open-mesh so that the contents are always easily identified by color and type . . . moreover old tags and other foreign matter drop through without accumulating in the bottom. For complete information on how these patented collapsible welded-wire baskets with eight-way pallet bases can simplify your handling problem, write without obligation to Pittsburgh Steel Products Company, Department TW, Grant Building, Pittsburgh 30, Pa.

Pittsburgh Steel Products Company

A Subsidiary of Pittsburgh Steel Company

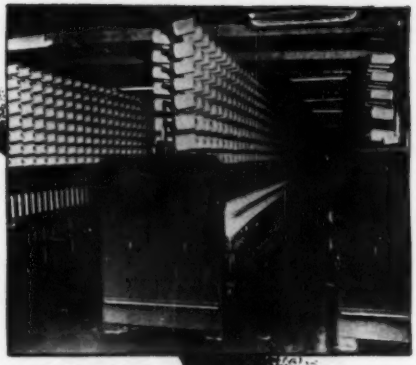
Why Mills Prefer
H&B TWISTERS

H & B Twisters are built ruggedly — and exactly — to exact specifications for producing high quality finished yarn with an even twist.

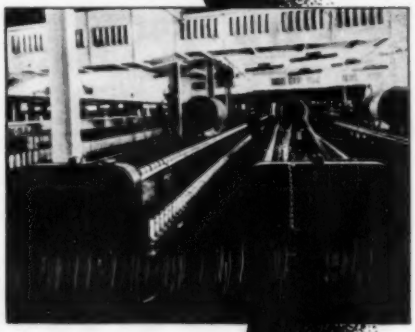
They deliver a firm, well-shaped package, carrying the maximum yardage permissible within the natural limits imposed by traverse and ring diameter. Whether the yarn is twisted for duck, top quality broadcloths, gabardines or sewing thread, you can count on the final quality of the twisted yarn, as well as the safety, ease and economy of operation of the machine. Among the many features that assure trouble-free run-off in subsequent yarn operations are:

1. *The ball bearing thrust washer in the builder drive that prevents dwelling at the top and bottom of the stroke and particularly aids high-speed winding.*
2. *Wet twisters are equipped with an automatic water feed control that maintains the same level in troughs, assuring even water penetration.*
3. *Replaceable bottom roll bearings to reduce maintenance cost.*

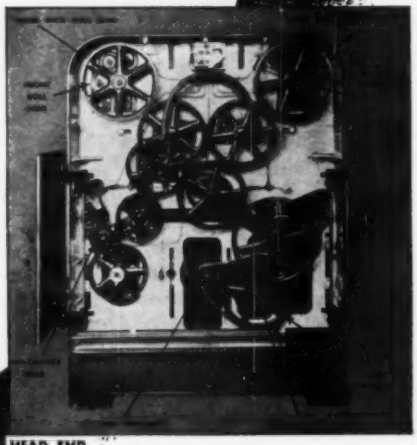
Supply packages on H & B Twisters can be beams as well as cones or tubes. Beam stands have ball bearings and a brake assembly which assures uniform and even tension let-off. Superstructure can have one or more beams. The shift to single beam operation is accomplished by moving one set of beam stands to the center position.



PACKAGE TWISTER



BEAM TWISTER



HEAD END

HEAD END FEATURES:

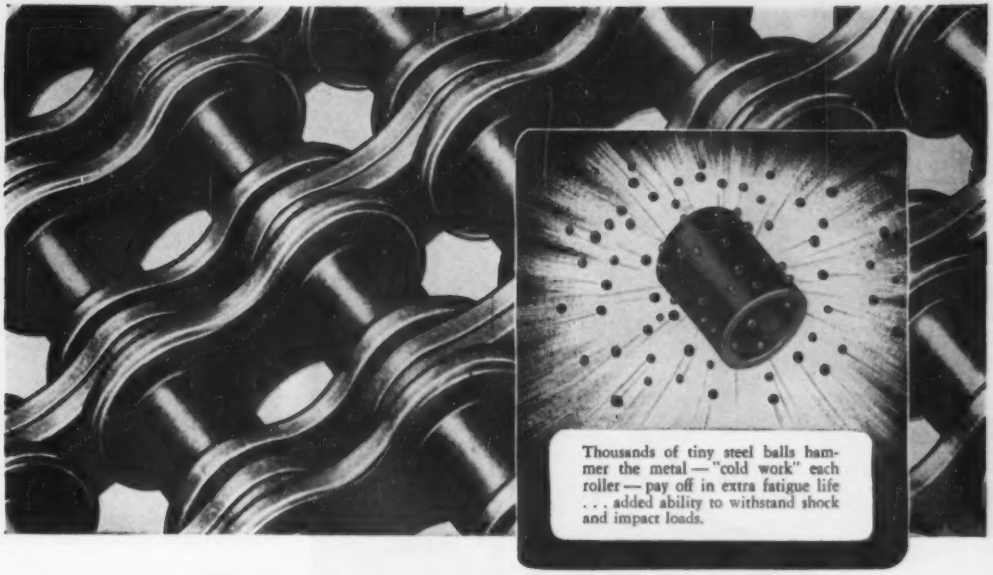
1. *All cut gears throughout.*
2. *Silent chain drive from cylinder to jack shaft.*
3. *Electric stop motion prevents starting of machine when doors are open.*
4. *Bijur lubrication system.*
5. *Doors swing open and away, making head end easily accessible for gear changes.*

Ask to have an H & B Sales Representative call with the complete story of H & B quality twisting. Contact the main or a branch office — today.

H&B AMERICAN MACHINE CO.

FACTORY, EXECUTIVE OFFICES AND EXPORT DIVISION • PAWTUCKET, R. I., U. S. A.
Branch Offices: Atlanta, Ga. — 613 Citizens and Southern National Bank Bldg.
Charlotte, N. C. — 523 West 4th Street
Greenville, S. C. — 1518-11 Woodside Bldg.

Builders of MODERN TEXTILE MACHINERY



Thousands of tiny steel balls hammer the metal — "cold work" each roller — pay off in extra fatigue life . . . added ability to withstand shock and impact loads.

Why you should be sure the roller chain you buy has

SHOT-PEENED ROLLERS

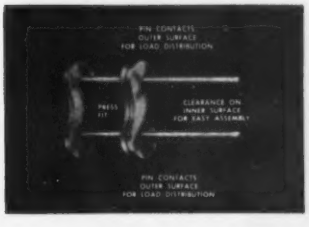
. . . one of the extra-strength features you get with every LINK-BELT Roller Chain

LOOK for the distinguishing darkened rollers on every roller chain you buy! They're your guarantee of extra fatigue life.

Shot-peening is just one of the added manufacturing refinements that make Link-Belt Precision Steel Roller Chain a longer-life chain. Controlled material selection and heat treating assure absolute uniformity . . . no weak members.

Link-Belt Roller Chain is available in single or multiple widths, in ⅜ to 3 in. single and double pitch. For the best in roller chain, get in touch with your nearest Link-Belt office.

Easier coupling and uncoupling without sacrificing load distribution

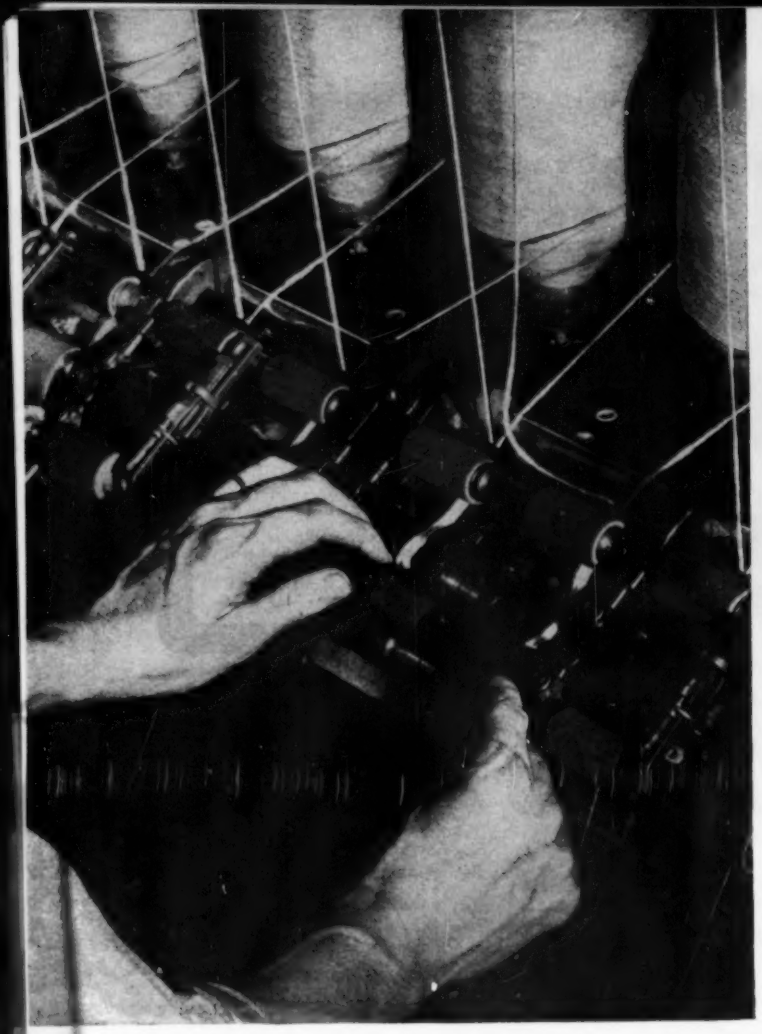

PIN CONTACTS OUTER SURFACE FOR LOAD DISTRIBUTION
PRESS FIT
CLEARANCE ON INNER SURFACE FOR EASY ASSEMBLY
PIN CONTACTS OUTER SURFACE FOR LOAD DISTRIBUTION

Patented E-Z Assembly feature of Link-Belt Precision Steel Roller Chain has won world-wide approval. Coupling and uncoupling of multiple width chains—right on the job—is far easier. There's absolutely no sacrifice of load distribution . . . no loss of the chain's remarkable performance. Press-fits between chain pins and middle bars have been modified. But full load-carrying capacity across the entire width of the chain has been maintained.

LINK-BELT

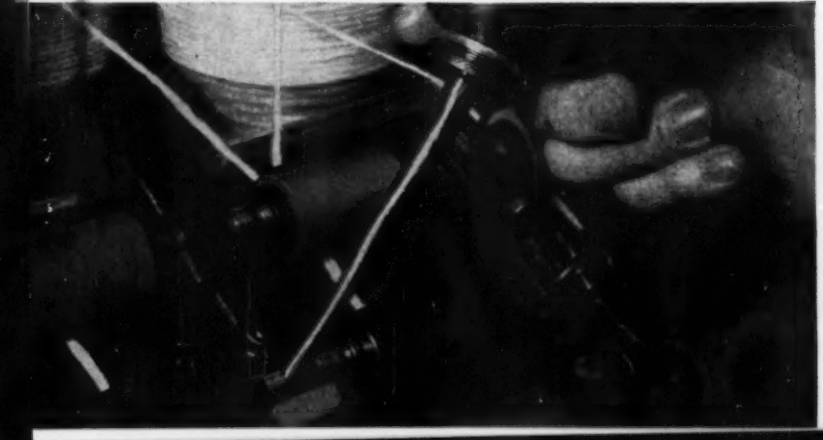
PRECISION STEEL ROLLER CHAIN

LINK-BELT COMPANY: Indianapolis 6, Chicago 9, Philadelphia 40, Atlanta, Houston 1, Minneapolis 5, San Francisco 24, Los Angeles 33, Seattle 4, Toronto 8, Springs (South Africa). Offices, Factory Branch Stores and Distributors in principal cities. 12.500



NO SEAMS: Look at any Armstrong's Accotex Apron, inside and out. You'll see it has no seams to crack or break, no seams to cause irregularities in the yarn. Barring accidental damage, Accotex Aprons give years of trouble-free service.

LONGER LIFE: Accotex Aprons reduce replacement costs. On single apron and most double apron frames they will give six to eight years and more of continuous service in two-shift operation. Long life is uniform from apron to apron, too.



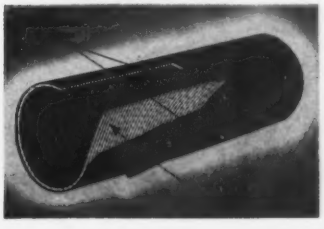
OIL RESISTANT: Accotex Aprons don't absorb oil, or soften from exposure to oils, dyes, and commonly used textile solvents. They won't sweat under any mill condition. Consequently, they have no tendency to pick up lint.

SUPER FLEXIBLE: NO-750 Accotex Apron is especially made for single apron frames. Very flexible, it hugs the nose bar tightly, insuring smooth slip-roll action.

SATIN FINISH: Rub your fingers across the surface of an Armstrong's Accotex Apron. You'll discover it feels smooth as satin. Each Accotex Apron you buy is ground to the exact thickness you specify and given a patented treatment that provides a smooth, clean-running, and scuff-resistant surface.

Get years of continuous service from this performance-proved apron

The one positive proof of durability is found in actual service—and Armstrong's Accotex® Aprons have *years* of that kind of proof behind them. Reports of 7 and 8 years of service on two-shift operation now are coming in from an increasing number of mills. That's real proof that the Accotex Apron that helps you get the most out of your long-draft equipment is also the apron that gives you the most for your apron dollar.



Why? The answer is found in the patented construction of this remarkable apron. Accotex Aprons are made in three special-function layers. The inside layer is a seamless tube of synthetic rubber especially formulated to resist the abrasion of running over the nose bar.

The outer layer—also seamless—is made of a synthetic rubber that will stay smooth and resilient throughout years of continuous spinning. Between these seamless layers are strong cords that absolutely prevent stretching or curled edges.

Vulcanized together, these three layers make an efficient and long-lasting apron. For example, in a Georgia mill a set of Armstrong's NO-700 Accotex Aprons ran two shifts continuously for eight years!

If you are not getting this kind of service from the aprons now on your frames, see your Armstrong representative. He can show you the Accotex Apron best suited to your frames. Call him today or write Armstrong Cork Company, Textile Products Department, 8310 Arch Street, Lancaster, Penna. Available for sale in export markets.

ARMSTRONG'S ACCOTEX APRONS

one of Armstrong's complete line of textile mill supplies

"...from little acorns grow."

1931 1951

In this our twentieth anniversary year, may we express to our friends in the textile industry, our heartfelt thanks and our humble appreciation for your friendship, understanding and loyal support that has made our growth possible. To you we are sincerely grateful.

Meadows
MANUFACTURING COMPANY
ATLANTA

QUALITY...BACKED BY A DESIRE TO PLEASE

Equalize the "Squeeze ...with MILLER Air CYLINDERS

Miller Air Cylinders Used on *"Butterworth"* Bullet Padder.

Miller Air Cylinders economically provide the steady, even, repetitive "squeeze" so essential for the pressure rolls of textile machinery and equipment.

Precision-accurate adjustment and repetitive application of pressure to always the exact degree desired are assured by the high-efficiency, leakproof operation of these cylinders and the extremely low "break-away" pressures required to obtain smooth piston movement. Even when the operating plant air pressure is again applied after days of machine inactivity, piston movement is instantaneous—smooth- -chatter-free . . . because the Miller *self-regulating, wear-compensating* piston and rod seals *will not "freeze"* to prevent piston movement or to cause jumpy, jerky action. These seals never need adjustment, have no provision for adjustment, therefore *cannot be over-adjusted.* The Miller rod seal operates against the Miller scratch-resistant, rustproof hard chrome plated piston rod; the Miller piston seal operates against the precision-honed, highly polished finish of the Miller rustproof hard brass cylinder barrel. No wonder these seals still give leakproof, efficient service after millions of strokes. No wonder Miller Air Cylinders are completely free from the rust conditions common to ordinary cylinders.

In addition, *dirt wipers* at rod ends keep out all dirt and lint, and *solid steel* heads, caps, and mountings eliminate costly, dangerous breakage.

Write for illustrated cylinder bulletins A-105 and H-104

COMPLETE MILLER CYLINDER LINE INCLUDES: AIR CYLINDERS, 1½" to 20" BORES, 200 PSI OPERATION; LOW PRESSURE HYDRAULIC CYLINDERS, 1½" TO 6" BORES FOR 500 PSI OPERATION, 8" TO 14" BORES FOR 250 PSI; HIGH PRESSURE HYDRAULIC CYLINDERS, 1½" TO 12" BORES, 2000-3000 PSI OPERATION. ALL MOUNTING STYLES AVAILABLE.

MILLER MOTOR COMPANY

2002-06 N. Hawthorne — Melrose Park, Ill.

CLEVELAND — PITTSBURGH — PHILADELPHIA — DETROIT — YOUNGSTOWN — BOSTON — HARTFORD — NEW YORK CITY — DAYTON — ST. PAUL — FORT WAYNE — INDIANAPOLIS — MILWAUKEE — NASHVILLE — SEATTLE — LOS ANGELES — SAN FRANCISCO — BALTIMORE — ST. LOUIS and OTHER AREAS.

Sales and Service from coast to coast

Ashworth

CARD CLOTHING

4 FACTORIES . . .

6 REPAIR SHOPS . . .

7 DISTRIBUTING POINTS . . .

4 FACTORIES in widely separated areas are insurance against local catastrophes and other circumstances beyond our control. They are your assurance of an uninterrupted supply.

6 REPAIR SHOPS in 6 major textile centers guarantee you prompt, convenient and efficient repair and reclothing service.

7 DISTRIBUTING POINTS, strategically located, (see signature) make Ashworth Products easier to get.

ASHWORTH CARD SURVEYS

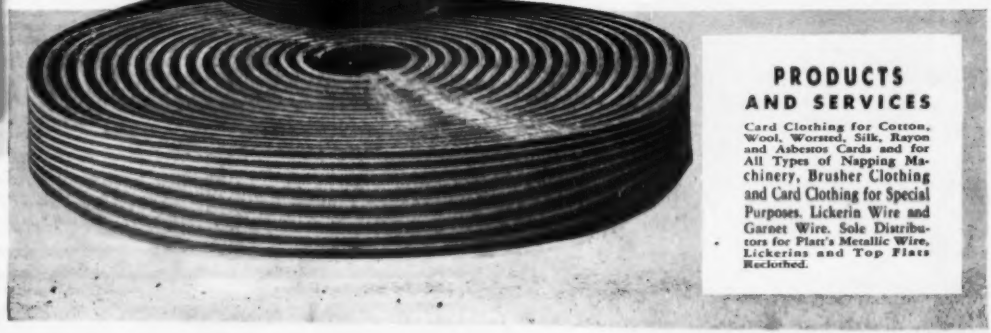
Ask us about them. They improve the performance of your cards and enable you to schedule repairs to avoid shutdowns at inconvenient times.

ASHWORTH BROS., INC.

American Card Clothing Co. (Woolen Division)

Fall River *†‡ Worcester *‡ Philadelphia*†‡ Atlanta†‡
Greenville*†‡ Charlotte†‡ Dallas*‡ (Textile Supply Co.)

Factory* Repair Shop† Distributing Point‡



PRODUCTS AND SERVICES

Card Clothing for Cotton, Wool, Worsted, Silk, Rayon and Asbestos Cards and for All Types of Napping Machinery, Brusher Clothing and Card Clothing for Special Purposes. Lickerin Wire and Garnet Wire. Sole Distributors for Platt's Metallic Wire, Lickerins and Top Flats Reclothed.

TEXTILES *Sell on Sight!*

IN DISTINCTIVE MULTICOLOR

GAIRVURE

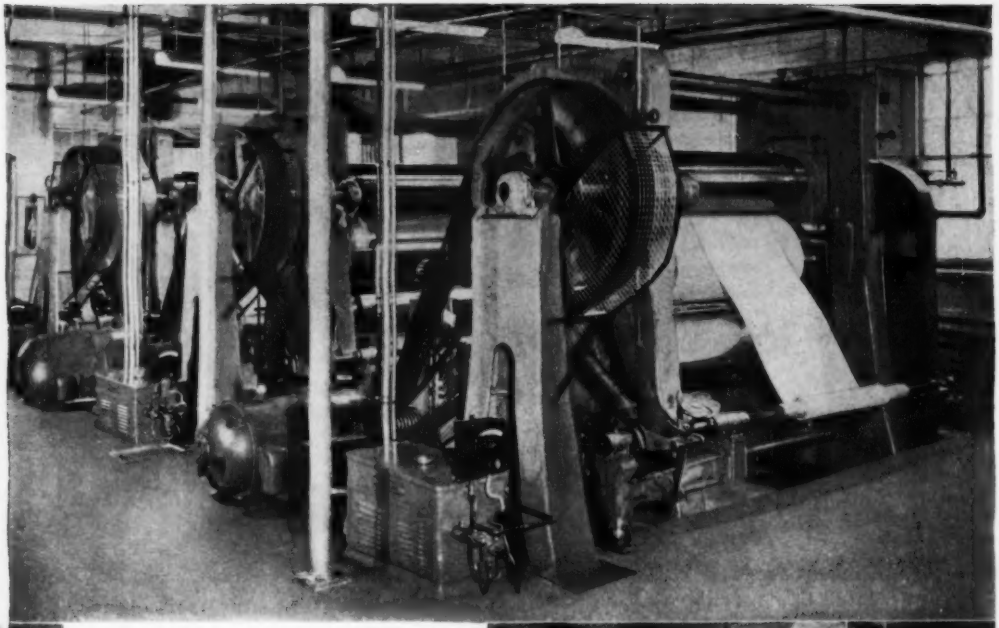
PACKAGING BY ROBERT GAIR

GAIRVURE opens up a new field of packaging for the TEXTILE INDUSTRY. Multicolor reproduction of your products on cartons can now be produced with the utmost delicacy, fidelity and realism. What a revelation when you discover your products SELL ON SIGHT in a GAIRVURE multicolor carton.

WRITE TODAY *for samples and technical information.*

ROBERT GAIR COMPANY, INC., 155 EAST 44th STREET, NEW YORK • TORONTO

PAPERBOARD • FOLDING CARTONS • SHIPPING CONTAINERS



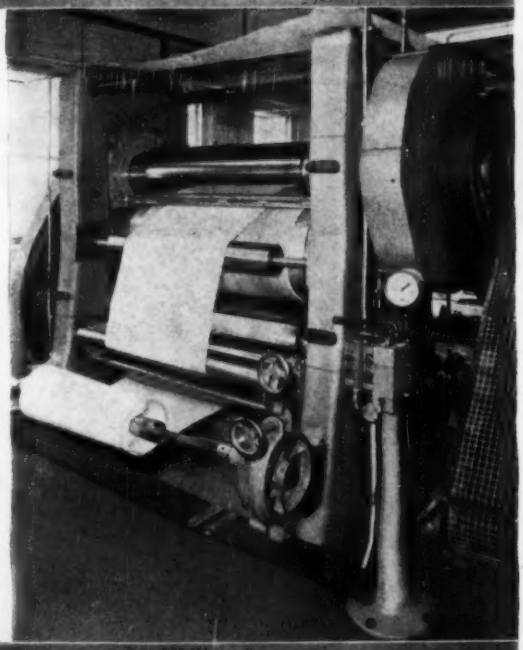
Customer's Verdict:

"Friction calender of the year"

"Smoothest running friction calender ever built"

Battery of three Perkins Friction Calenders incorporating new and proven ideas which contribute to smooth operation and high efficiency; roller bearings leakproof for life-time—seals eliminated; hydraulic equipment with built-in accumulator, self-contained in compact housing; friction drive by chain, easily adjustable for any friction percentage desired; all other details of construction up to the highest standards of engineering.

CLEANLINESS · SMOOTHNESS
NOISELESSNESS



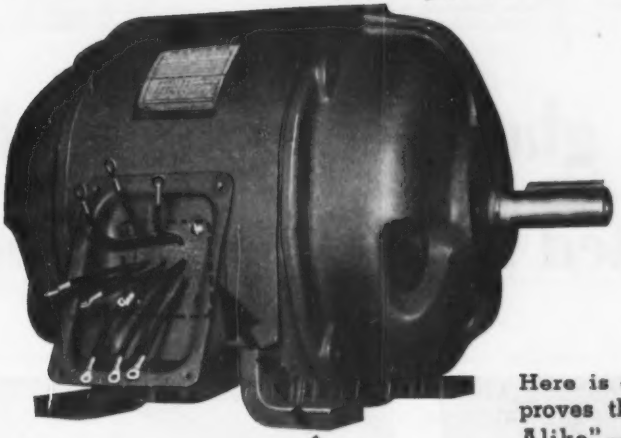
B. F. PERKINS & SON, Inc.

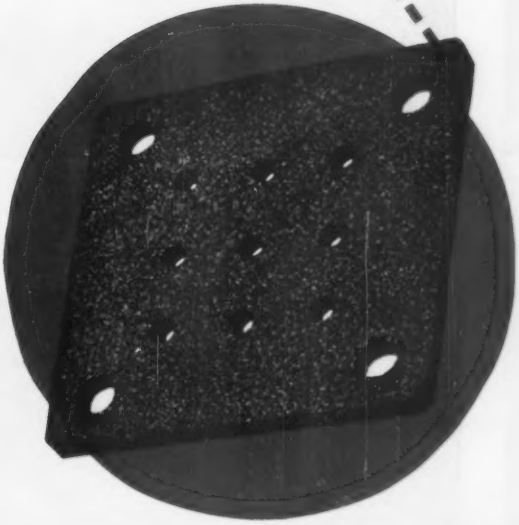
HOLYOKE, MASS., U.S.A.

LARGEST MANUFACTURERS OF CALENDER ROLLS IN THE WORLD

RELIANCE
Precision-Built
MOTORS

In making a better motor . . . IT'S THE LITTLE THINGS THAT COUNT, too!





Here is one of the extras which proves that "All Motors are NOT Alike"—this synthetic rubber gasket . . .

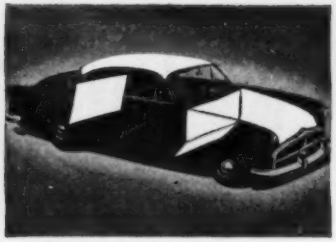
- ***Permanently indexes the motor leads***
- ***Prevents leads from rubbing against metal parts***
- ***Prevents water from entering motor at conduit box***

For more evidence of the many ways in which Reliance Precision-Built Motors are made better to deliver dependable power longer . . . write for Bulletin B-2101.

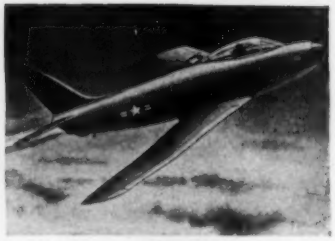
RELIANCE ELECTRIC AND ENGINEERING CO.

1086 Ivanhoe Road, Cleveland 10, Ohio • Sales Representatives in Principal Cities

Automobile tops, insulated with L·O·F Fiber·Glass against heat and cold, increase passenger comfort. Easy installation. Light weight. Won't deteriorate under normal conditions.

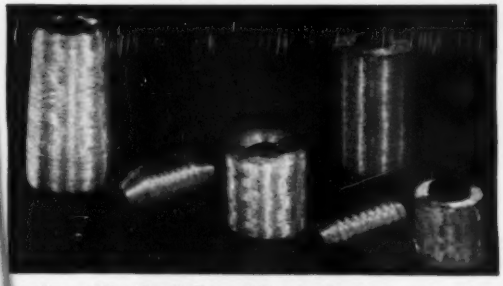


Automobile sound insulation a made-to-order job for L·O·F Fiber·Glass. Easy installation in doors, under the dash, on the fire wall, under the hood. Low moisture absorption, light weight.

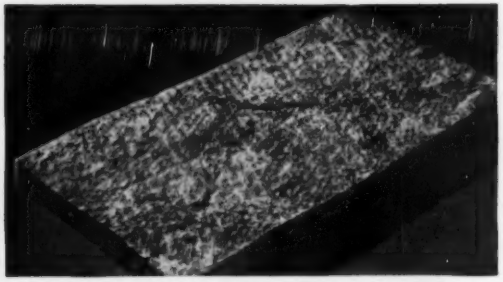


Aircraft sound and thermal insulation. Get these advantages of L·O·F Fiber·Glass. Light weight (as low as .3 lb. per cu. ft.). High fire safety. Low moisture pickup. High sound-insulating efficiency.

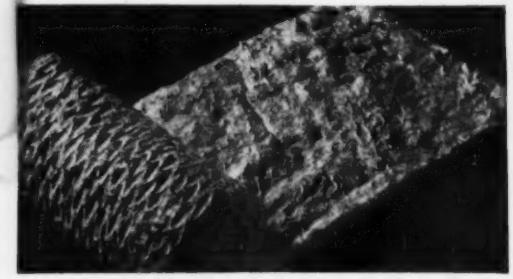
Proven glass technology plus now devoted to early production



Continuous Fiber Textile Yarn—150 series for many uses, such as electrical insulating tape, sleeving, cloth, roving, and paper reinforcement. Glass fibers have enormous tensile strength . . . 1½ million pounds per square inch and higher. High dielectric strength. Withstands temperatures up to 800°F.



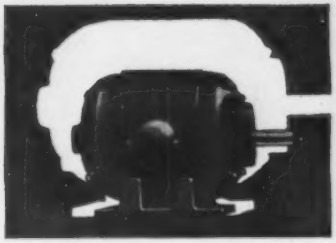
Super-Fine "B" Fiber—Splendid thermal- and sound-insulating qualities. Fiber diameter, .00012". Temperature range –0°F. to plus 450°F. Standard roll widths, 18", 24", 36", 72", in 100′ and 200′ lengths. Other widths and lengths also available in a range of thicknesses and densities.



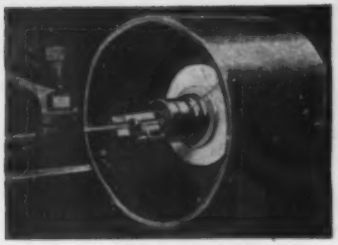
Super-Fine "AA" Fiber—primarily for aircraft insulation. Thickness, .5" with density of .6 lb. per cu. ft. Fibers of incredibly small diameter—.00004". With plastic binder to hold dimensional form. Roll widths, 36", 72", in 50′ standard length.

Roving, Chopped Strand and Textile Yarns—for reinforcing of plastics, paper, cloth and paper tape, etc. Enormous tensile strength. Won't shrink or stretch. Won't deteriorate under normal conditions. Versatile in application.

Industrial fabrics woven from Fiber·Glass are fine, safe, strong, rot- and mildew-proof. Ideal applications are tarpaulins, flame shields, airplane cloth, reinforcement for plastics.



Electric motors and generators insulated with L·O·F Fiber·Glass withstand heavy overloads. Appreciable space factor advantages! High dielectric strength.



Wire and cable can be served directly with L·O·F Fiber·Glass textile yarns using standard machines. Yarn also ideal for weaving tape, and braiding on wire and into sleeving.

fine, new facilities of L·O·F FIBER·GLASS!

Aviation, automotive, textile and electrical industries first to benefit from new, high-quality source of supply being readied by Libbey•Owens•Ford

HERE IS headline news of *immediate* interest to key men of business and industry.

The resources and advanced technical glass knowledge of Libbey·Owens·Ford are being focused on a new product—L·O·F Fiber·Glass!

With fine, new facilities at Parkersburg, W. Va., placed to serve you quickly, glass technicians of proven ability and experience are getting set to produce top-quality Fiber·Glass products in volume. (See facing page for basic items to be produced. Note above and right for typical applications.)

Across the country, in 24 major cities, L·O·F offices are busy with preparations to give you help on specific uses.

If your company has already discovered the superior qualities of fibrous glass, investigate L·O·F now as a new volume source, worthy of your complete confidence.

If your company now buys other material for electrical insulation, thermal or acoustical insulation, or reinforcing for plastics or paper, L·O·F Fiber·Glass can offer a combination of advantages unmatched by such other materials. This is a chance to benefit from the glass technology and the high standard of quality which you have come to expect from L·O·F!

For technical data, or engineering consultation on Fiber·Glass uses in your business, call your local L·O·F office—or write, wire or phone Libbey·Owens·Ford, Dept. F·G 105, Nicholas Bldg., Toledo 3, Ohio.

Plastic reinforcing, as in this bread tote tray, presents many possibilities with L·O·F Fiber·Glass. Remarkable strength. Won't dent or lose shape. No discoloration of plastic material. Exceptionally long life.

Paper and paper tape reinforced with L·O·F Fiber·Glass can be raised in tensile strength to equal aluminum or even steel! Either Fiber·Glass textile yarns or scrim mesh are suitable. Investigate!

LIBBEY·OWENS·FORD GLASS COMPANY
FIBER·GLASS DIVISION

L O F FIBER·GLASS

FIBER·GLASS

JOURNEY'S END

and Protected by Gaylord *All the Way!*

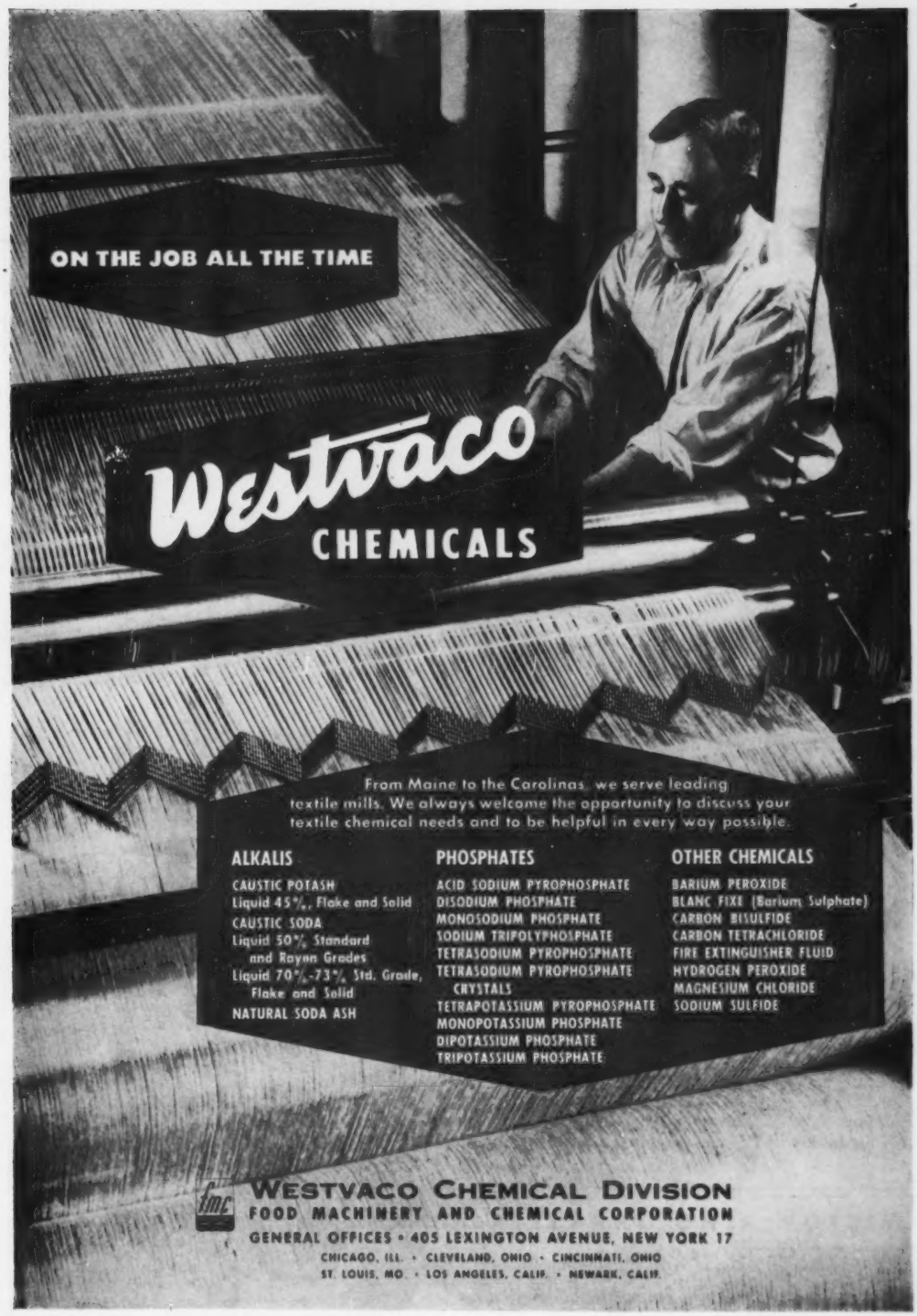
Gaylord Boxes

It has been a long, rugged trip with plenty of rough handling, but there it is — fresh as a daisy — just as it left the factory.

Gaylord Boxes are especially designed and manufactured to provide maximum protection for the product — and they do just that all the way!

GAYLORD CONTAINER CORPORATION

General Offices: ST. LOUIS


ON THE JOB ALL THE TIME
Westvaco
CHEMICALS
From Maine to the Carolinas, we serve leading textile mills. We always welcome the opportunity to discuss your textile chemical needs and to be helpful in every way possible.
ALKALIS
CAUSTIC POTASH
Liquid 45%, Flake and Solid
CAUSTIC SODA
Liquid 50%, Standard and Rayon Grades
Liquid 70%-73%, Std. Grade, Flake and Solid
NATURAL SODA ASH
PHOSPHATES
ACID SODIUM PYROPHOSPHATE
DISODIUM PHOSPHATE
MONOSODIUM PHOSPHATE
SODIUM TRIPOLYPHOSPHATE
TETRASODIUM PYROPHOSPHATE
TETRASODIUM PYROPHOSPHATE CRYSTALS
TETRAPOTASSIUM PYROPHOSPHATE
MONOPOTASSIUM PHOSPHATE
DIPOTASSIUM PHOSPHATE
TRIPOTASSIUM PHOSPHATE
OTHER CHEMICALS
BARIUM PEROXIDE
BLANC FIXE (Barium Sulphate)
CARBON BISULFIDE
CARBON TETRACHLORIDE
FIRE EXTINGUISHER FLUID
HYDROGEN PEROXIDE
MAGNESIUM CHLORIDE
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WESTVACO CHEMICAL DIVISION
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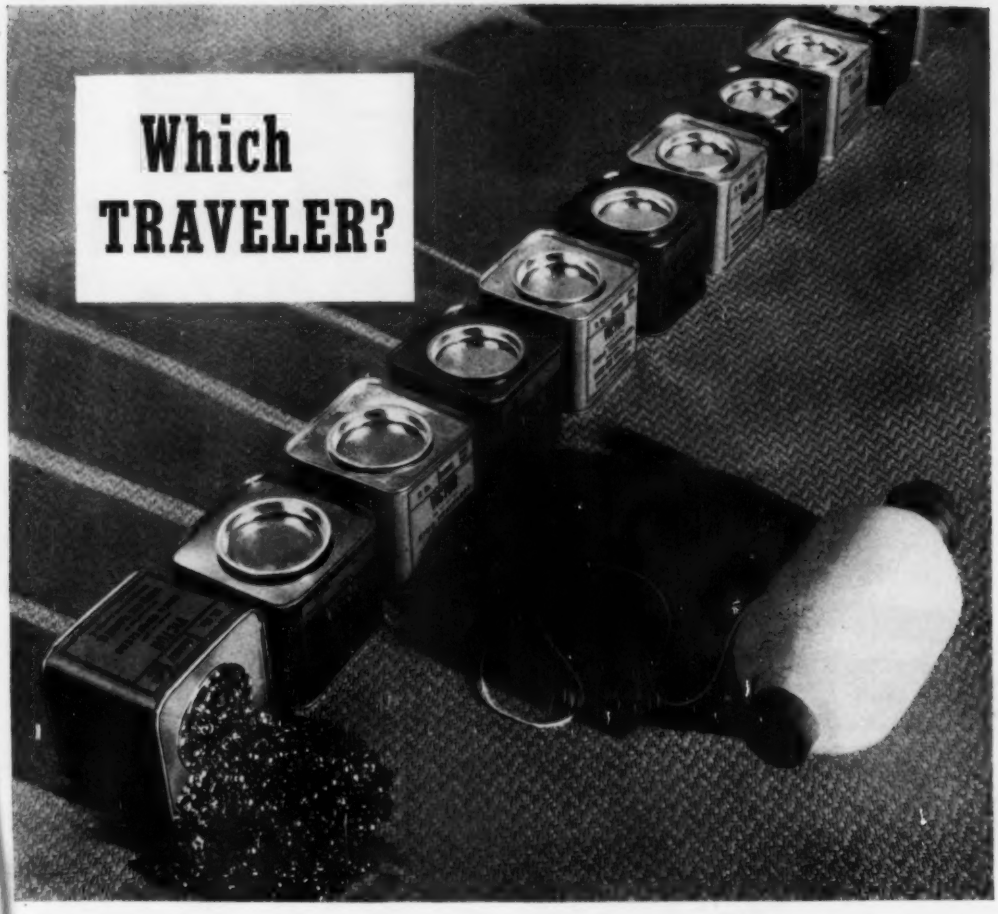
GENERAL OFFICES • 405 LEXINGTON AVENUE, NEW YORK 17
CHICAGO, ILL. • CLEVELAND, OHIO • CINCINNATI, OHIO
ST. LOUIS, MO. • LOS ANGELES, CALIF. • NEWARK, CALIF.



NO two fibers run exactly alike. For example, a 20's synthetic or blend yarn requires a traveler of a different size and type than that used in running cotton yarn of the same number, for best results in spinning.

"Guesswork" and haphazard probing to find the right traveler uses up valuable time, puts you "on the spot".

If your ends down are excessive, if your quality and production are off, make the one smart move that has helped so many mills gain greater productivity. Talk over your trouble with a Victor Service Engineer.

Mill-trained, every Victor Service Engineer is a *specialist* in traveler applications, has often helped clear up the most puzzling spinning and twisting problems. Whether you are running conventional fibers, synthetics, or blends — he can often make other valuable suggestions for improving yarn quality and production.

Write, wire or phone our nearest Victor office for prompt, friendly service. There's no obligation.

•

Keep a Step ahead with

VICTOR Ring Travelers

VICTOR RING TRAVELER COMPANY

PROVIDENCE, R. I. . . . . 20 Mathewson St. . . . . Tel. Dexter 1-0737

GASTONIA, N. C. . . . . 358-364 West Main Ave. . . . . Tel. 5-0891

COLOR
SELLS
TEXTILES
Quality
KEEPS THEM SOLD
Irresistible as a smile of welcome, COLOR like this befriends the buyer – and tells its own story of QUALITY. Manufacturers take a long step toward satisfactory sales when they specify Franklin Process Fast Color Yarns.
Franklin Process
LARGEST PACKAGE DYERS IN THE WORLD
Providence • Philadelphia • Greenville • Chattanooga
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UXBRIDGE

USES "The Fleet Line" CARBONIZING RANGE

THE FLEET LINE

A complete line of modern equipment to successfully handle present day wet-finishing, carbonizing and dyeing requirements.

Uxbridge Worsted Corp., Uxbridge, Mass. is only one of the many textile companies which have included the Fleet Line Carbonizing Range in their modernization programs. This unit consists of wet out tank, heavy 18" squeeze rolls, acid soaking tank, another set of heavy 18" squeeze rolls, 12-pass cloth tenter dryer (127 yds. capacity) and infra-red lamp baker and Type 66T-4 Continuous Crusher.

Noteworthy features include the following:—

1. **Speed of range is synchronized with speed of dryer, which is set manually. Dryer operates at 10 to 40 y.p.m.**
2. **Extra large acid tank, gives longer soaking time for better penetration.**
3. **Two sets of heavy squeeze rolls, and three sets of smaller squeeze rolls assure thorough acid penetration and good extraction.**
4. **Air agitation keeps bath circulating.**
5. **Continuous crusher, synchronized with speed of dryer, makes entire operation continuous.**

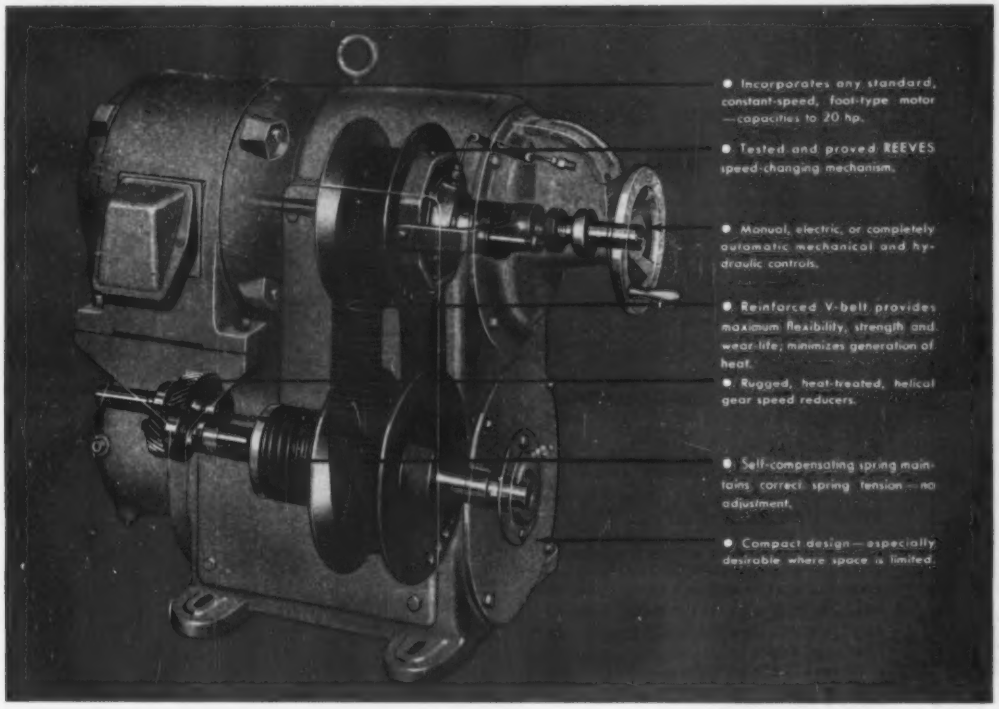
Let us make recommendations for YOUR wet-finishing modernization requirements.

RIGGS AND LOMBARD

Foot of Suffolk St., Lowell, Mass.

INCORPORATED

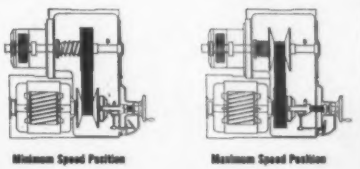
AGENTS: Paul A. Merriam, 1491 Broad St., Providence, R. I.; Francis H. M. New, P. O. Box 1083, Greenville, S. C.; H. E. Mott Co., Ltd., Brantford, Ont., Canada; Charles H. Dunker, 1236 South Maple Ave., Los Angeles 15, California; Albert R. Breen, 80 Ea. Jackson Blvd., Chicago 4, Illinois.


● Incorporates any standard, constant-speed, foot-type motor —capacities to 20 hp.
● Tested and proved REEVES speed-changing mechanism.
● Manual, electric, or completely automatic mechanical and hydraulic controls.
● Reinforced V-belt provides maximum flexibility, strength and wear-life; minimizes generation of heat.
● Rugged, heat-treated, helical gear speed reducers.
● Self-compensating spring maintains correct spring tension—no adjustment.
● Compact design—especially desirable where space is limited.

Everything's built in—

and built to give your machines trouble-free, stepless speed adjustability in the

REEVES Vari-Speed Motodrive®



REEVES Vari-Speed Motodrive utilizes proved REEVES operating principle of a V-belt driving between two pairs of cone-shaped discs which are adjustable to form an infinite number of driving and driven diameters. Discs are mounted on parallel shafts. One shaft receives power at constant speed from motor —other delivers power at infinitely adjustable speed to gear reducer from which desired speed is transmitted to driven machine.

Here's a complete variable speed power plant in one, space-saving unit . . . incorporating an operating principle proved in 300,000 installations . . . ruggedly constructed for years of trouble-free service. Without stopping the machine, a turn of the REEVES handwheel or touch of a button provides the correct speed for every operation . . . enables the machine to do *more* work and *better* work at lower cost. Available in vertical and horizontal designs; capacities to 20 hp; and speed ratios as great as 10 to 1. For the machines you are now operating and the new ones you plan to buy, obtain all the benefits of stepless speed adjustability by specifying modern REEVES Vari-Speed Motodrive. Send for free catalog No. W67-G

REEVES PULLEY COMPANY • COLUMBUS, INDIANA

Recognized leader in the specialized field of variable speed control

accurate · variable
REEVES *Speed Control*

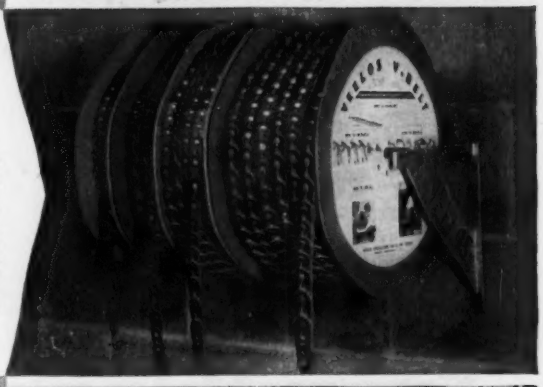
 For more information, write direct or use Reader Service post card.

You Waste Money Here with Endless V-Belts...

because it takes *extra* dollars to keep a complete stock of different sizes of endless v-belts . . . *extra* dollars to provide adequate storage space . . . *extra* dollars to maintain an accurate inventory control . . . and *extra* dollars in an inventory of belts that may deteriorate before they can be put into service.

but You Save Money Here with Veelos V-Belt...

because these 4 reels of Veelos *adjustable* v-belt in the O, A, B and C widths will replace up to 316 sizes of endless v-belts. Veelos on reels is easy to store on the wall or floor . . . easy to control, for a glance tells you stock on hand. And Veelos holds inventory investment dollars to a minimum while providing *the right size v-belt when you need it*—without delay, without deterioration.



and You Make Money Here on Continuous Production...

because Veelos *keeps* your machines producing. Profit-killing downtime for belt installation is practically eliminated. Veelos installs quickly —on some drives in less than one-tenth the time of endless v-belts because it is unnecessary to dismantle outboard bearings. Simple adjustment permits easy maintenance of uniform tension on all belts . . . assures constant, vibrationless, full power delivery.

For the complete story on Veelos, the adjustable v-belt, write for your copy of the VEELOS DATA BOOK.

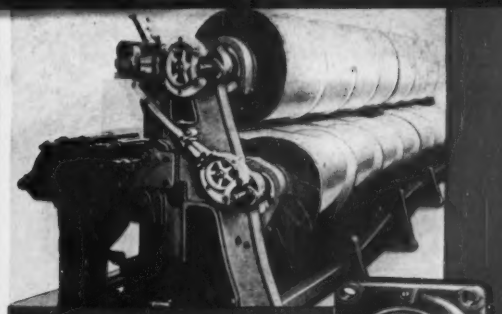
VEELOS
THE LINK
V-BELT

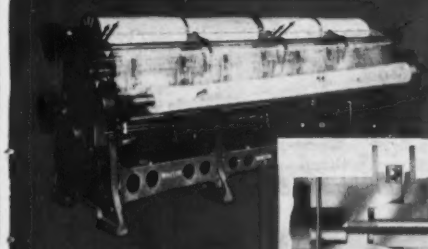
ADJUSTABLE TO ANY LENGTH • ADAPTABLE TO ANY DRIVE

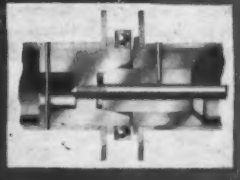
Made in all widths in three types: regular, oil-proof, static conducting. Also double V in A and B. Package on reels in 100-foot lengths. Sales engineers in principal cities; over 350 distributors throughout the country. VEELOS is known as VEELINK outside the United States.

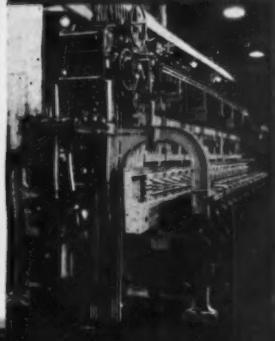
MANHEIM MANUFACTURING & BELTING COMPANY, MANHEIM, PA.

For more information, write direct or use Reader Service post card.









TURNING POINTS

to longer service life for Modern Looms and Warp Knitters

Although increased loom speeds and high-speed warp knitting put a heavy burden on bearings, longer service life for both the bearings and machines is assured by the use of anti-friction ball bearings. Lighter starting torques, freer running action, and positive, uncontaminated lubrication all help to minimize vibration and wear at high speeds.

The crankshaft, camshaft and rocker shaft on looms make ideal applications for anti-friction bearings . . . especially Fafnir Wide Inner Ring Ball Bearings with Self-Locking Collars . . . easiest of all to install. Yarn tension shafts, cloth take-up shafts and yarn beam drives on high-speed knitters will remain in better operating condition longer when they turn in Fafnir Ball Bearings.

There's a Fafnir Ball Bearing or completely packaged, ready-to-mount Fafnir Textile Unit for every turning point in every standard textile machine. All are "textile designed" and proved by years of money-saving operation in leading mills. The Fafnir Bearing Company, New Britain, Connecticut.

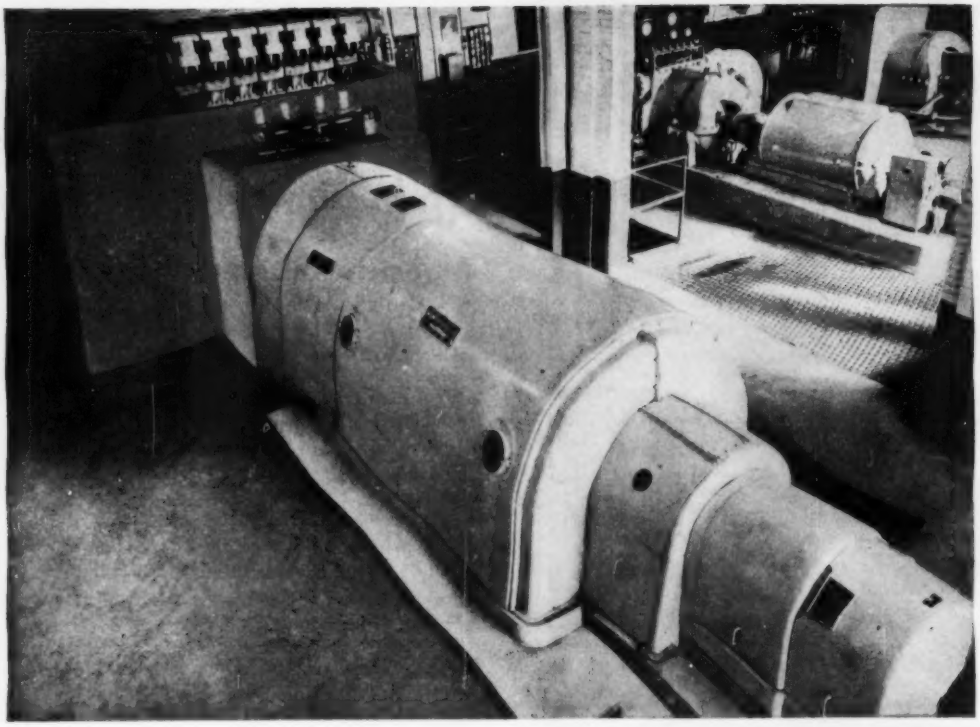
Other FAFNIR UNITS for Weaving and Warp Knitting

- Rocker Shaft Unit for Model E Draper Loom
- Treadle Rail for Draper "XL" Loom
- Camshaft Unit for Model "E" Draper Loom
- Crankshaft Unit for Model "E" Draper Loom

FAFNIR

BALL BEARINGS

MOST COMPLETE LINE IN AMERICA



How Rock Hill and Worthington Balanced Steam and Power

During its fast growth, Rock Hill Printing and Finishing Company, Rock Hill, South Carolina, has made extensive changes in the power plant.

Since 1929 electrical demand has greatly increased. Also, plant process has called for large quantities of steam at 90-100 psi and at 15 psi pressure.

When a new 150,000 lb-hr boiler was installed, another Worthington 5000-kw non-condensing extraction-type turbine generator was also installed. This latest Worthington unit operates on steam at 230 psi, 575 FTT, and automatically extracts steam at 100 psi, exhausting at 15 psi back pressure.

The unit has sufficient flexibility between extraction and back pressure to handle variations in flow requirements and to carry an electrical load varying from 3000 up to an anticipated 5000 kw.

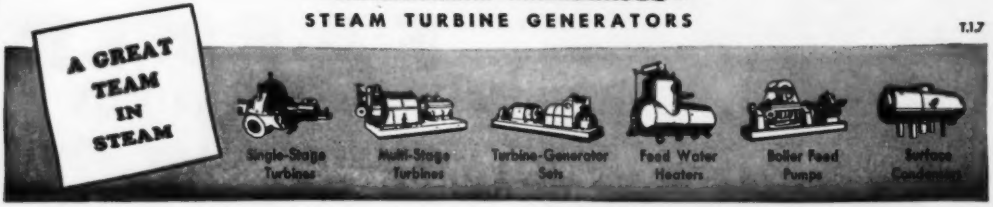
By purchasing a *Worthington* unit, Rock Hill also benefits from unit responsibility for design, assembly and performance.

Worthington builds turbine-generator sets in sizes up to 10,000 kw and in all types. For detailed proof that *there's more worth in Worthington*, call our nearest office or write to Worthington Pump and Machinery Corporation, Steam Turbine Division, Wellsville, New York.

WORTHINGTON

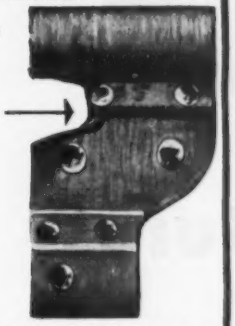
STEAM TURBINE GENERATORS

T.1.7



Maintenance Tips for Pickers

In mills using non-reversible drop box with a picker strap, be sure stick bumper is not worn. Worn bunters tend to let the stick jam picker and cause the type of wear shown below.

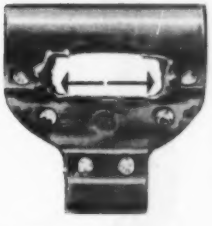


Where reversible drop box pickers are used, watch for these causes of excessive wear:

1. Wear at *front* of picker caused by too much bunter, or bunter on front end of rod that is too hard.

2. Wear at *back* of picker caused by insufficient bunter on front end of rod. This makes the stick stop too quickly and allows the picker to override.

3. If heel spring is too stiff, the picker may be cut at *back* end of the sticker-hole.



NOTE: Garland pickers are designed to give exceptionally long service. Where excessive wear occurs, it is usually due to external factors. We will gladly help you on such problems. Write us, outlining the details, or ask our representative to call.

Eliminate worn or inadequate pickers . . .

SPEED PRODUCTION *with*

Garland

Genuine Rawhide Loom Pickers with 5 BIG FEATURES for better service

1. REINFORCED STICK HOLE

Molded rawhide reinforcements cut down wear, lengthen life of picker.

2. STRONGER PICKER HEAD

A much heavier outside layer of rawhide provides the added strength that means perfect throw throughout the life of the picker.

3. PRESSURE MOLDED

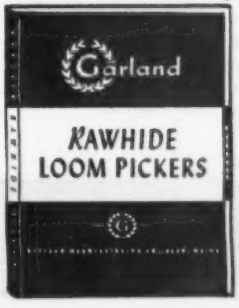
Uniform dimensions are assured by individual pressure molding. Need for filing or fitting is eliminated.

4. IMPROVED SPINDLE HOLE

Hole is perfectly rounded and strengthened by locked-in flanges at both ends. Holes will stay rounded, require no reaming, and will not bind.

5. FINEST MATERIAL KNOWN

Nothing but Water Buffalo Hide possesses the strength and elasticity to stand up under the terrific punishment of today's high speed requirements and still go easy on shuttles, sticks, and looms.



For complete information on standard and special loom pickers, write on your mill letterhead for the

NEW
GARLAND CATALOG

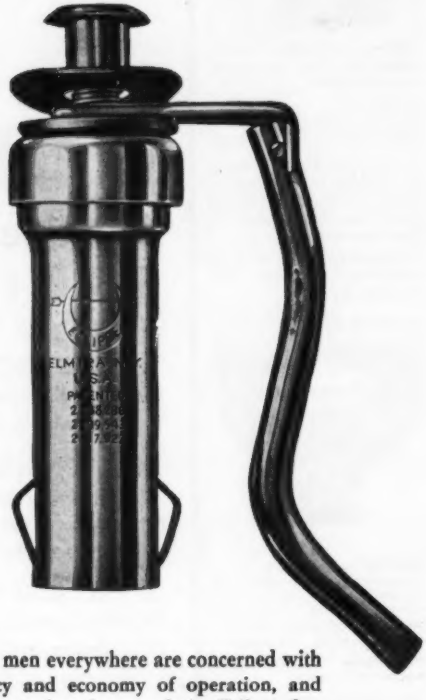
Garland
MANUFACTURING CO.
SACO, MAINE

only

ECLIPSE BOBBIN HOLDERS

OFFER THESE

"BIG TEN" Features



1. Completely replaces wooden skewers.
2. Stainless steel ball bearings minimize friction, resulting in uniform quality of roving.
3. Permits less twist. Tests indicate yarn of more even texture.
4. Creel boards easily cleaned. Overhead suspension leaves open creels. Blowers more effective.
5. Better spinning of spun rayon.
6. Easier creeling; less physical effort and fewer motions required.
7. Improved brake attachment prevents over-run and backlash.
8. Now cadmium plated and stainless steel balls more rust resistant.
9. Time-tested product—holders in operation for over ten years.
10. Easy to install; practically no upkeep.

★ ★ ★

Textile men everywhere are concerned with efficiency and economy of operation, and that's just what these *exclusive* Eclipse features assure you! If you want to modernize your present plant equipment profitably, you can't go wrong with the finest—Eclipse Bobbin Holders. Write us for further details.

ECLIPSE MACHINE DIVISION of Bendix AVIATION CORPORATION

ELMIRA, NEW YORK

Export Sales: Bendix International Division, 72 Fifth Avenue, New York 11, N. Y.

ECLIPSE

make every bit of stainless count

Wise and efficient use of available stainless steel stocks can go a long way to making sure that all defense and industry needs are met.

Getting the best available materials for your job is a vital first step—Crucible, pioneers in the development of stainless steels, urges you to take full advantage of our metallurgical staff and stainless fabricating specialists. Their wealth of experience—based on thousands of stainless applications—can help stretch your stainless supply. There is no other metal that can work the same "miracles" as stainless, and these Crucible metallurgists can help you select the best available stainless grades for your needs.

It's up to you to make every bit of stainless count—we're equipped to help you do it. When your problem is stainless—call on us.

CRUCIBLE first name in special purpose steels

51 years of Fine steelmaking **STAINLESS STEEL**

CRUCIBLE STEEL COMPANY OF AMERICA, GENERAL SALES OFFICES, OLIVER BUILDING, PITTSBURGH, PA.

STAINLESS • REX HIGH SPEED • TOOL • ALLOY • MACHINERY • SPECIAL PURPOSE STEELS

WE'VE SPILLED THE WORKS...

. . . to show you why you can get longer chain life . . . eliminate production losses . . . with Baldwin-Rex Roller Chains on your machines.

Here are the "works" . . . the parts that make up the Baldwin-Rex Pin and Roller link. The photograph can't show you the high quality materials that go into these parts. BUT, it does illustrate some of the manufacturing "extras" that make Baldwin-Rex *better!*

1 NOTE THE BEVEL

on side plate edges . . . this assures better and smoother engagement of the chain with sprocket teeth in case of misalignment . . . no danger of cuts from sharp edges.

2 NOTE THE BUSHINGS

. . . they're precision-made of low carbon alloy steel with surfaces case-hardened *inside and out* It means longer life of bearing surfaces . . longer life and lower operating costs to you.

3 NOTE THE ROLLERS

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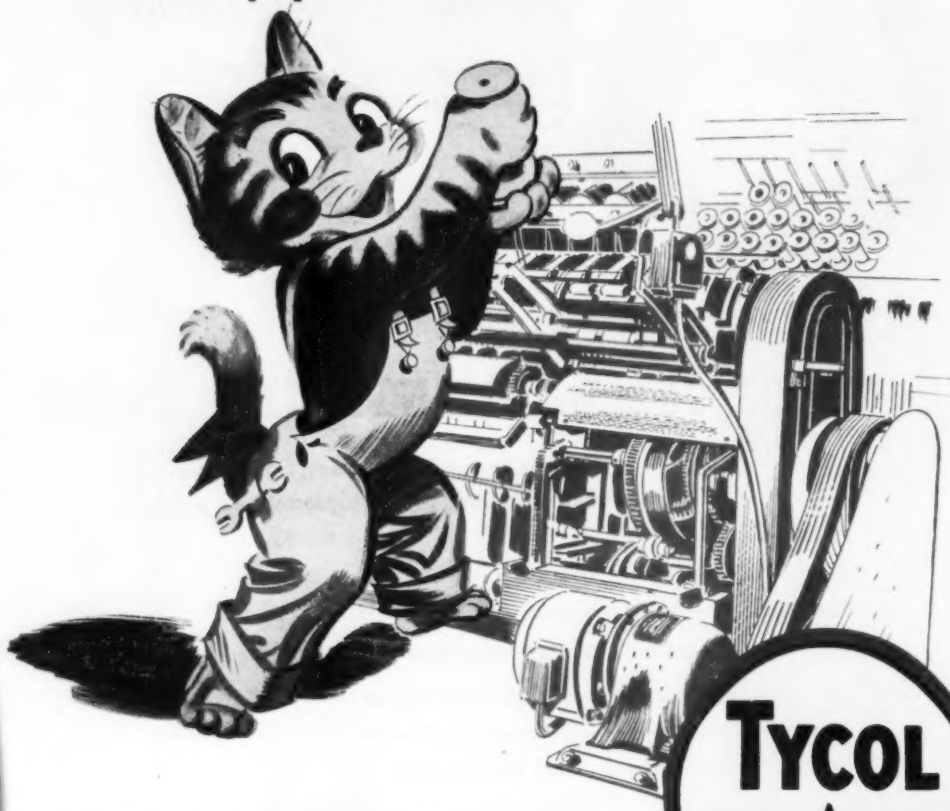

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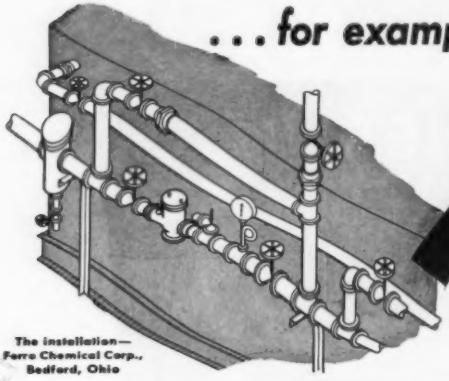

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Ferro Chemical Corp.,
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PROBLEM: To maintain automatically, within close limits, uniform reduced steam pressure from supply line to battery of two drying ovens controlled by individual thermostatic valves.

WORKING CONDITIONS: Initial steam pressure of 70 psi to be reduced to 13 psi, and maintained without significant fluctuation whether one, both, or neither of the ovens is being operated.

SOLUTION TO PROBLEM: One No. 960 Crane Brass Pressure Regulator, properly selected for capacity required, and with adequate condensate drainage provided.

RESULT: For more than 5 years, without interruption and with no more than routine maintenance, the Crane No. 960 Regulator has given complete satisfaction. Operating like new, and since all wearing parts are renewable, it will virtually never wear out. User remarks on unusual simplicity of adjustment.

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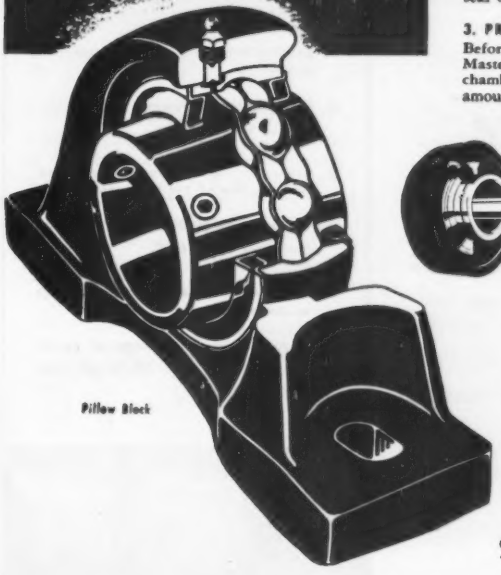

1. PERMANENTLY SEALED
Felt-lined steel flinger, rotating in labyrinth, excludes dirt and retains proper amount of lubricant.

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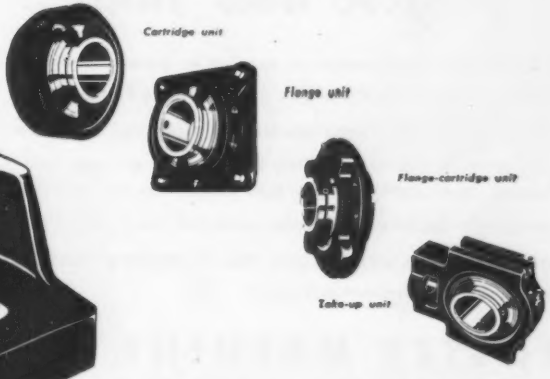
Bearing unit, with seals independent of housing, can align itself in any direction without seal distortion.

3. PRE-LUBRICATED
Before shipment from the SealMaster factory, the bearing chamber is filled with proper amount of lubricant.

4. NO HOUSING WEAR
Patented locking pin and dimple prevent rotation of outer race in housing. This eliminates housing wear, permits shaft alignment and positions unit for relubrication.

5. FLOATING RETAINER
Ball retainer is designed to float on ground inner surface of outer race. Traps lubricant, prevents churning.

6. HOUSING DESIGN
SealMaster's cast housings combine rigid, one-piece construction with smooth streamlined appearance.



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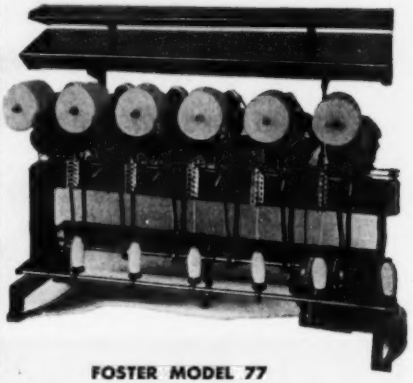
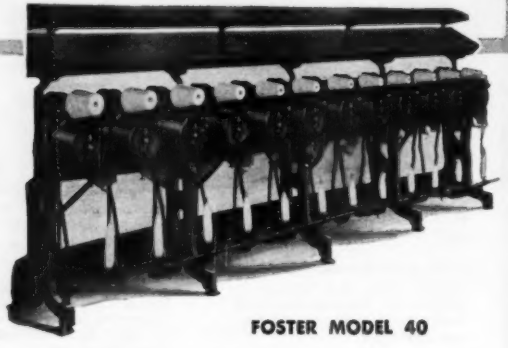


FOSTER MODEL 77



FOSTER MODEL 40

Champions at "Give and Take"

A champion in any endeavor, sporting or manufacturing, is made by superior ability in "give and take". The Foster Model 77 and Model 40 precise winders for cones and tubes are champions in this respect. They have proved, in tough competition, their ability to give high production and superior packages in the winding of coarse yarns and heavy plies. They are also known for their ability to "take it", requiring minimum mechanical maintenance and repair.

Check these champion characteristics of Foster Model 77 and Model 40:

1. Precise wind or lay.
2. Ball bearing spindles and drive shaft standard on Model 77, optional on Model 40.
3. Spindles driven by individual quarter-turn belts.
4. Equipment for drawing either over-end or unrolling.
5. Arbors for various types of cones and tubes furnished for both machines.
6. Traverses on Model 77 up to 8"—on Model 40 up to 6½".
7. Multiple end winding of braider tubes on Model 40.
8. Model 77 winds a range of counts from 8/3 to 8/100; Model 40 from 30/2 to 8/40.

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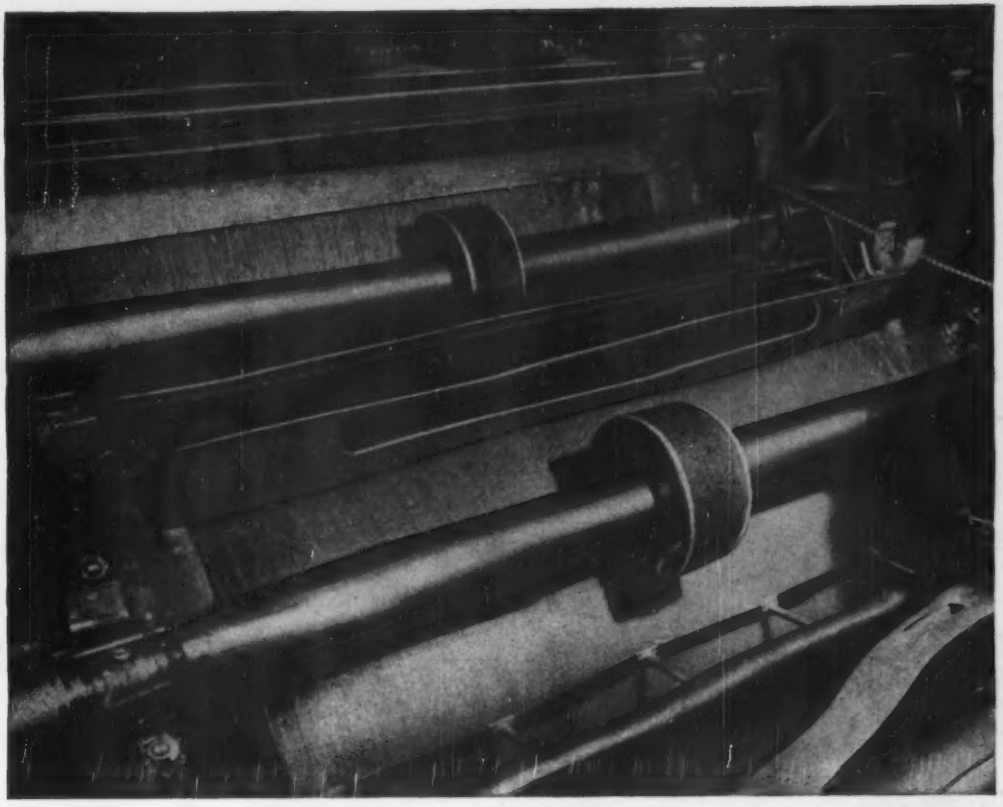

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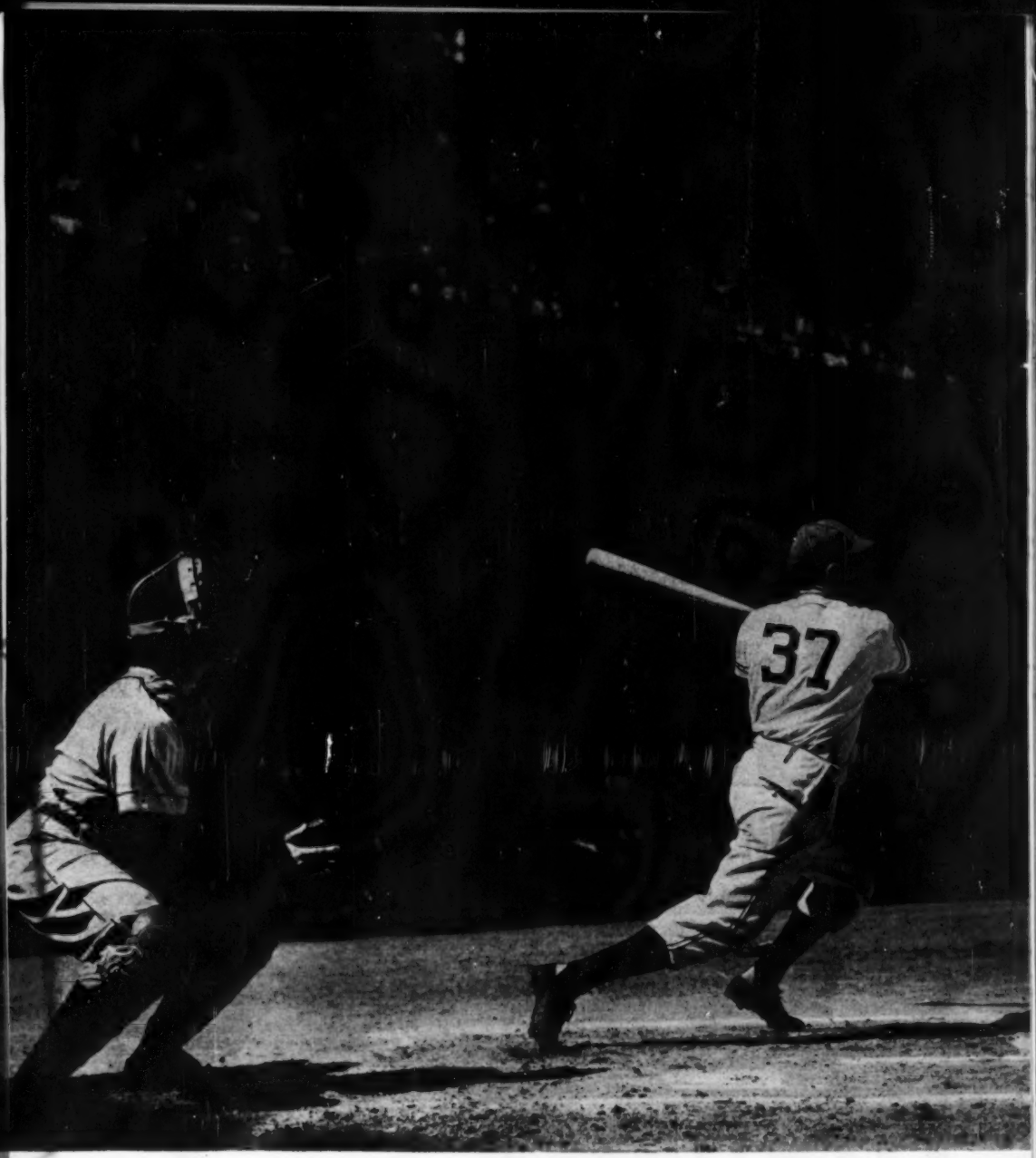


He's a great hitter—

Ed Delahanty, one of the immortals of baseball, is the only ball player who ever won the batting championship of both major leagues. With the Phillies in 1899, he hit .408 to lead the National League. With Washington in 1902, he hit .376 to lead the American League.

BUT how does he compare with Delahanty? . . . In everything we do, we make comparisons . . . In Full-Fashioned Knitting, the one standard for comparison is the 30-section "Reading" Machine with a production of 14 to 16 dozen pairs of superior quality stockings in 8 hours. 51-gauge, 60-gauge.

TEXTILE MACHINE WORKS • READING, PENNA.

Not, PLEASE, In the Name of Fairness

Our national Office of Economic Stabilization has adopted a policy of gearing wages to the cost of living. We are told that "escalator clauses," which provide that rates of pay shall be adjusted to take account of changes in the cost of living, will be generally approved.

If the adoption of this policy had been announced as a frank concession to political expediency, it would have been quite understandable. There may very well be votes, lots of them, in a policy which purports to protect the income of a large group against loss through the price inflation caused by the defense program.

A case might even have been made for a policy of approving escalator clauses on grounds of production expediency. The leaders of some three million organized workers now covered by such clauses have indicated that they would fight to the limit to keep them and thus maintain "real wages," that is, wages measured by their purchasing power. The leaders of other organized groups have indicated they would fight to get the benefit of such clauses. Denial of them might mean serious strikes.

Justified "in Fairness"

However, the policy of approving escalator clauses was not based on these relatively low grounds of expediency. It was justified on high moral grounds, on grounds of "fairness." In the words of the President's Council of Economic Advisers, "maintenance of real wages during inflation cannot in fairness be disallowed."

That proposition is false.

It would be truthful to say, "maintenance of real wages during inflation cannot in fairness be allowed."

The truth of the corrected proposition becomes evident immediately when you take a look at the basic nature of the inflationary problem created by defense mobilization.

We are devoting a large share of our national production to defense. The share is now scheduled to hit about 20% in 1952.

Since we are not able to increase our total production fast enough to meet defense needs

in addition to civilian needs, that means a cut in the supply of goods and services that is available for civilian consumption. But the money paid out for the production of defense materials is added to that which is available to buy civilian goods.

Thus, more money is put into the hands of the people to buy less goods. So prices go up. That is inflation.

If one group of people then is granted enough additional money to offset the price increases — and that is the purpose of an escalator clause — and thus can continue to buy as much as they have been buying right along, less goods will be left for other consumers who are not getting this advantage. That is palpably an unfair distribution of the sacrifices necessitated by defense mobilization. In fairness, therefore, maintenance of real wages in inflation cannot be allowed.

Organized workers were not the first, of course, to get the benefit of an automatic adjustment to take account of the increased cost of living. The farmers got theirs first. The price parity formula is, in essence, an escalator clause. The federal government underwrites increases in the prices of the things farmers sell in order to match increases in the prices of the things they buy.

Crucifying the Helpless

As matters stand, two groups are without benefit of escalator clauses. One group is composed of manufacturing firms. While they have not been nearly as successful as the misleading reports of "record-breaking profits" suggest, they have been able to look after themselves fairly well — thus far.

But one group is completely without protection. It is that numerically large but politically unorganized mass of people — many of them old and relatively helpless — who are trying to live on pensions, annuities and other fixed incomes derived from their savings. They are at the end of the line when the increased costs of inflation are passed along. They have no one to whom they can pass the buck. They are being progressively pauperized by the continuing inflation caused by progressive boosting of costs and hence prices.

With the present line-up of pressure groups in Washington, protection for the principal victims of inflation — those who have saved for a rainy day only to find inflation has blown away the roof — is obviously an extremely difficult business. But to have even temporary insulation against inflation granted to powerful groups in the name of fairness should be offensive to the nostrils of a nation that presumes to assert the moral leadership of the Western World.

The only really fair way to handle inflation is to prevent it. But once it is under way, fairness demands that the burdens be as evenly distributed as practicable.

An escalator clause — or a farm parity provision — is explicitly a device to enable the group favored by it to escape the burden of inflation. Whatever concessions we feel we must make to political pressures or production expediency, let us at least be honest enough not to invoke "fairness" as justification for so arbitrary a discrimination in the distribution of the defense burden.

McGraw-Hill Publishing Co., Inc.

SETTING A WORKLOAD

-- A Case Study

By NATHANIEL M. MITCHELL
President, Barnes Textile Associates, Inc.

Based on a paper delivered at the annual meeting of the National Association of Wool Manufacturers

HERE is the complete story of how a mill went through the process of looking intelligently at its workloads and machine assignments. The methods shown in this report are based on engineering principles of operation and time study.

The mill's own staff engineers conducted all of this work after receiving training in the methods involved.

The project started in the weave room, went back into the spinning dept., and then returned to the weave room for a check-up and summary of results.

Complete facts and figures, on the actual forms, are given so you can get a better idea of how to apply these principles to your problems—whether you're in cotton, wool, or synthetics.

A TEXTILE WORLD REPORT TO MILL MANAGEMENT

Step 1 Weaving Studies

Company engineers started the project in weave room and got this data:

1. **Mechanical and operating specifications (Chart A)**
2. **Job specifications (Chart B)**
3. **Operating studies (Chart C)**

Mechanical and Operating Data — **Weaving**

Date — **By**

Operating Specifications	
Style	-
Fabric	57"
Width and Type	Women's Wear
Looms	W-3
Humidity—Dry Bulb and % Relative	-
Speed—Picks per Minute	117.5
Cloth	
Sley x Pick	32 x 30
Yarn: Warp x Fill.	Run S W&F
Yards per Pound—Calculated	2.13
Pounds/Yard Cloth—Warp	.2668
Filling	.2388
Size	-
Reed	
Width	68.6
Dents per Inch	15-3/4
Ends per Dent	2
Cuts	
Yards per Cut Woven	69
Cuts per Loom Roll	18
Warp	Adjustable Width
Beam Width x Dia. Head	x 24" or 29"
Yards per Beam Woven	1242
Total Ends per Beam	2160
Selvage Yarn—Ends per Beam	Out of warp
Bobbin	
Length and Description	(Yarn) 7"
Lb./Bobbin (per Bunch 9-12)	.0828
Running Minutes per Bobbin	2.55
Work assignment	
Weaver	12
Battery Hand	24
Fixer	24

Mechanical Specifications	
Looms	
Looms in Place	-
Location	-
Type Loom	Automatic
Make - Model	C&K W-3
Width	82"
Boxes	4 x 1
Year	1946
Speed	117.5 ppm. (Avg.)
Type	
Drive	Electric Motor
Let Off	Friction
Whip Roll	Metal
Drop Wire Motion	Electrical
and No. of Banks	4 Bank
Harness and Capacity	Dobby-25 harn.
Battery Cap. 4 Cells	36 Bobbins
Filling Motion	
Type	Fork
Center	X
Does Filling Motion	
Stop Loom	
Center	Stops loom
Shuttle	
Make	-
Type Tension	Brushes
Dimensions	
Outside Length x Width	18-1/2" x 2-3/16"
Inside Length x Width	10" x 1-1/2"
Inside Depth	1-3/4"
Pick Clock	
Make	Veeder-Root
Number of Shifts	3
Humidification	
Make - Type	Controlled

CHART A

AFTER ASSIGNMENTS WERE CHANGED from six to 12 looms per weaver, specifications in the weave room were as shown in this table.

Job Specification Data

Task Number

Job Title: Weaver

Department: Weaving

Shift	Normal No. of Employees	Scheduled Hrs./Week	Avg. Earnings—No Overtime Per Hour	Per 40 Hours
1st	16	40	PW	PW
2nd	16	40	PW	PW
3rd				
Total	32	80	PW	PW

Nature of Work: Repetitive loom tending, cloth doffing, following established procedures. Detect deviations from normal operating conditions and correct or call for assistance if deviation is other than minor or beyond scope of weaver's function.

Male or Female M Piece or Daywork Piece

Working Implements: Reed Hook, Scissors

Number Assigned	Description of Machines Assigned	Make	Deliveries/ Machine	Product
6	4 x 1 Auto. Loom - Model W-2, W-3 & Rebuilt	C & K	1	Woven Cloth

Number	Operation Detail
1	Tend and operate a set of automatic box looms. Restart after mechanical stops, repair warp breaks, restart after filling breaks and stops.
2	Inspect cloth after start up.
3	Conduct periodic front and back patrols.
4	Fill batteries as required.
5	Put filling box in spare floor when empty.
6	Get empty cloth roll, cut, and remove woven cloth. Start next roll by winding cloth around bare cloth roll.
7	Oil picker balls and picker rods twice per shift. Most other necessary loom oiling done by means self oiling loom pump twice per shift. Remaining oiling done once a week and split between shifts.
8	Mark weaver's name on cloth with chalk at end of shift.
9	Lift out drop wires at warp out and place in drop wire truck on spare floor.
10	Cut threads at warp out and tie in groups in back of reed.
11	Clean loom when warp is out.
12	Get fixer, smash hand, filling carrier when required. Note: Weaver is responsible for continued operation of loom and for quantity and quality of output therefrom insofar as these factors are subject to his control.
13	Turn pick counters to correct shift at start of shift.
14	At chalk cut mark, mark cut card, stop loom, weave in cut ticket.
15	Clear the warp with the loom running or stopped.

Notes—Includes special skill, mental, physical, etc., requirements.

Unrestricted use of arms and legs. Must be able to reach or bend. May not be color blind. Should not be excessively short. Average mental capacity.

CHART B

POINTING FINGERS indicate tasks that were taken away from the weaver and assigned to battery hands when the new schedule was worked out. This procedure helped to raise looms per weaver from six to 12.

Summary of Weaving Operating Studies

Test Number	Totals
Date & Shift	
Style Number	XX
Looms Assigned	5 of 6
Manhours Studied	11.18
Efficiency	85.3%
Producing Loom Hours	47.71

CLASSIFICATION	No.	%
WARP		
Knot	21	6.0
Knot Slipped	9	2.6
Hard End	24	6.9
Selvage Ends	5	1.4
Bad Piecing	73	21.0
Weak & Uneven	33	9.5
Unknown Harness	3	.9
Unknown Shed	3	.9
Unknown	8	2.3
Miscellaneous	4	1.1
Total Warp Stops	183	52.6
Warp Stops/PLH	3.84	
FILLING		
Break at Transfer	43	12.4
Bad Build	18	5.2
Waste in Wind	6	1.7
Weak & Uneven	31	8.9
Unknown	18	5.2
Miscellaneous	5	1.4
Total Fill. Stops	121	34.8
Fill. Stops/PLH	2.54	
MECHANICAL		
Knock Off	22	6.3
Knock Off at Transfer	5	1.4
Bad Transfer	11	3.2
Miscellaneous	6	1.7
Total Mech. Stops	44	12.6
Mech. Stops/PLH	.92	
GRAND TOTAL STOPS	348	100.00
TOTAL STOPS/PLH	7.30	

3.84 x 86% x .70 = 2.31
2.54 x 86% x .50 = 1.09
.92 x 86% x .35 = .28

3.68 (Total Min./Lm. Hr. - Weav.)
2.44 (Total Min./Lm. Hr. - Other Work)

6.12 Total Working Min./Lm. Hr.

60 Minutes ÷ 6.12 = 9.8 Estimated Looms/Weaver at Current Conditions

CHART C

THIS IS NOT A TIME STUDY, but a method of finding out how the work is running and what causes loom stops.

The item "Producing Loom Hours" is important because it helps to establish a common denominator for comparative loom-stop findings. The producing-loom-hour calculations compensate for varying weaving efficiencies. Items that are considered excessive are indicated by the pointing fingers.

With stops per loom-hour at 7.30, the potential loom assignment would be 9.8 per weaver. But since the yarn and loom conditions were substandard, it was not considered logical to recommend a nine-loom assignment even though it would permit a reduction in weaving cost from the present six-loom job.

Step 2 Spinning Studies

To find out the causes of the poor yarn conditions found in the weave room, the company engineers conducted studies in the spinning room similar to those already accomplished in the weave room.

Mechanical and Operating Data — Woolen Ring Spinning

Date _____ By _____

Run Yarn—Standard	4.00	Spindles/Frame	120
Tested	3.90	Gauge	6-1/4"
Blend	-	Ring Diameter	5"
Turns Twist/Mach. W&F	11.5	Type	Eady
Break—Standard	37.0 Lbs.	Traveler Type	Victor
Actual	37.85 "	No.	-
100% Lb./Spindle/Hr.	.1217	Spindle Speed	4700 rpm.
Roving Grain Wt./50 Yds.	92 Gr.	Spindle Whorl Dia.	1-5/8"
Ends Jack Spool	20	Spindle Cyl. Dia.	10"
Wt. Jack Spool Avg.	8.57 Lbs.	Spindle Cyl. Speed	759 rpm.
Type Bobbin	Wood	Del. Roll Dia.	1-1/4"
Length Empty Bobbin	12"	Del. Roll Speed	79 rpm.
Dia. Full Bobbin	1-7/16"	Twister Cyl. Dia.	6"
Wt. Yarn on Bobbin Cap.	1.10 Lb.	Twister Cyl. Speed	432 rpm.
Wt. Yarn on Bobbin Avg.	1.00 Lb.	Twister Head Whorl Dia.	1-5/8"
Min. to Fill Bobbin	804	Drawing Roll Dia.	1-1/4"
Make Frame	Whitin	Drawing Roll Speed	116 rpm.
Year - Model	1947 - E	Main Shaft Jack Gear	47T
One Shot Lubrication?	Yes	Cylinder Shaft Gear	36T
Separators?	Yes	Front Roll Gear	34T
Size Blades	13"x6-1/2"x7-3/4"	Length Traverse	3-1/2"
Clocks	Yes	Ring Rail Set. Pick Gear	200T
Make	Veeder-Root	Teeth/Stroke	2
Type	Yardage	Lay Gear	25T
Shifts	3	Bobbin Clutch Type	Spring
Are Clocks Used?	Yes	Draft Gear	37T
Belt or Motor Drive	Motor	Draft	1.4684
Drawing Rolls	Double		

BECAUSE OF THE NEED FOR ACCURATE INFORMATION, company engineers collected these data themselves rather than asking production men for it.

Job Specification Data

Task Number

Job Title: Woolen Ring Spinner

Department: Spinning

Nature of Work:
Repetitive machine tending, creeling and doffing, following the procedures established by others; all under direct supervision.

Shift	Normal No. of Employees	Scheduled Hrs./Week	Avg. Earnings—No Overtime Per Hour	Per 40 Hours
1st	4	40	FW	
2nd	4	40	FW	
3rd	4	40	FW	
Total	12	120		

Male or Female F Piece or Daywork Piece

Working Implements: "Pipe cleaner"

Number Assigned	Description of Machines Assigned	Make	Deliveries/ Machine	Product
4	120 spindle ring spinning frame	Whitin	120	Spun Yarn

Number	Operation Detail
1	Tend and Operate scheduled set of spinning frames. Perform patrols in a continuous cycle, piecing up broken ends of yarn where encountered.
2	Replace exhausted roping spools with full ones from rack on top of frame.
3	Strip waste roping from empty spools.
4	Doff full bobbins onto spindles on spare rail, replacing with empty bobbins.
5	Oil machine using one shot lubrication system.
6	Fill spindles on spare rail with empty bobbins after full bobbins have been collected by the yarn carrier.
7	Replace worn travelers, sweep alley as needed.

Notes—Includes special skill, mental, physical, etc., requirements.

THIS INFORMATION IS CHECKED with the department head in order to eliminate inaccuracies and help in establishing standards.

Summary of Operating Studies

Test	Totals	
Date and Shift	-	
Product Description	xxx	
Humidity	31%	
Man Hours Studied	10	
Machines Assigned	3	
C Producing Del. Hrs.	33.34	
Classification	No.	%
Lap-Up on Steel Roll	4	.6
Lap-Up on Top Roll	9	1.4
Bad Wind on Spool	15	2.3
Bad Spool	1	.2
Slub	17	2.6
Thin Roping	16	2.5
Break at Traveler	5	.8
Flyover	18	2.8
Unknown - Roping	31	4.8
Unknown - at Rolls	75	11.7
Unknown - Yarn	57	8.9
Total Yarn Breaks	248	38.6
Yarn Breaks/C Prod. Sp. Hr.	7.44	
Breaks at Start Up	7	1.1
Damaged in Handling	2	.3
Own Piecing	18	2.8
Own Creeling	368	57.2
Total Operator-Caused Break	395	61.4
Oper.-Caused Breaks/C Prod. Sp. Hr.	11.85	
Grand Total Ends Down	643	100.0
Total Ends Down/C Prod. Sp. Hr.	19.29	

Analysis of Production Efficiency

Classification	Mins.	%
Producing Time (Frame Running)	1666.80	92.6
Down Time: Creeling	97.50	5.4
Doffing	25.50	1.4
Miscellaneous	10.70	.6
Grand Total	1800.00	100.0

Summary of Operating Studies

Test	Totals	
Date and Shift	-	
Product Description	xxx	
Humidity	33%	
Man Hours Studied	11.5	
Machines Assigned	3	
C Producing Del. Hrs.	39.66	
Classification	No.	%
Lap-Up on Steel Roll	3	1.4
Lap-Up on Top Roll	3	1.4
Bad Wind on Spool	1	.5
Slub	5	2.3
Thin Roping	7	3.2
Break at Traveler	9	4.1
Flyover	8	3.6
Unknown - Roping	8	3.6
Unknown - at Rolls	19	8.6
Unknown - Yarn	21	9.5
Total Yarn Breaks	84	38.2
Yarn Breaks/C Prod. Sp. Hr.	2.12	
Breaks at Start Up	1	.5
Damaged in Handling	1	.5
Own Piecing	35	15.9
Own Creeling	99	44.9
Total Operator-Caused Break	136	61.8
Oper.-Caused Breaks/C Prod. Sp. Hr.	3.43	
Grand Total Ends Down	220	100.0
Total Ends Down/C Prod. Sp. Hr.	5.55	

Analysis of Production Efficiency

Classification	Mins.	%
Producing Time (Frame Running)	1983.00	95.8
Down Time: Creeling	45.00	2.2
Doffing	34.00	1.6
Miscellaneous	8.00	.4
Grand Total	2070.00	100.0

PRODUCING SPINDLE OR DELIVERY HOURS is used as a classification here in order that data from several frames can be compared. Fingers point out the major causes of yarn breakage.

Total average ends down per 100 producing spindle hours is excessive at 19.29—more than three times the normal value.

These facts, when presented to the spinning-department head, were enough to convince him that the situation needed remedying right away.

LOOK AT THE IMPROVEMENT shown in spinning when the boss called the engineers back for a check study four weeks after the first study.

5.55 ends down per 100 producing spindle hours is indicative of a yarn quality that should result in good running conditions at the loom.

Step 3 Back to Weaving

Follow-up weaving operating studies were conducted on the improved warp and filling yarns.

Weaving Test

Page
Test 64
Date 9/20/51
Start 9:00
Stop 10:00
Min. 60
Location
Operator
Observer
Looms #85-90
Wet
Dry
%

Loom	Inspect Aft. St.	Front Patrol	Back Patrol	Spare Time	Personal	Miscellaneous				
						Classification	L#	R	S	Min.
18 10	10	6:31	6/69	65 33	To Heater .69	After Loom Roll	(s) 86	R		.23
10 08	24	6:48	6/60	65 43	First Aid 3.84	Call Fixer	(s) 88	S		.12
10 09	21	6:31		70 1.35						
14 19	29			75 60						
11 12	11			1.38 20						
13 09				69 1.59						
34 10				75 25						
08 24				1.43 14						
15 17				1.74						
09 15				2.62						
05 19				2.84						
04				1.69						
18				50						
06				55						
11				3.29						
19				45						
14				54						
15				35						
				30						

Warp		Filling		Mechanical		Clear Warp			Fill Battery		
L#	Time Cause	L#	Time Cause	L#	Time Cause	L#	Time Cause		Walk	Loom	Number
90	70	86	43	89	14	90	44	R	05	.15	4 90
90	47	88	29	86	07	90	29	R	05	.13	4 85
88	51	90	43	90	11	87	2.69	R	08	.19	4 86
89	45	86	31	89	12				10	.19	4 88
90	49	89	24	85	08				10	.22	4 89
87	40	89	30						14	.16	4 90
90	49	90	35						10	.19	4 86
89	35	90	29						21	.14	4 87
87	45								13	.18	4 88
85	74								06	.15	4 87
89	38								10	.15	4 85
86	60								10	.15	4 89
86	60								17	.24	4 90
90	68								04	.17	4 89
90	47								18	.23	4 87
90	44								07	.13	4 86
90	58								11	.18	4 86
87	39								09	.14	4 86
87	43										

Warp Breaks
1 Balls & Mats
2 Slugs & Waste
3 Knot
4 Slub-Undrafted
5 Slack End
6 Tie Back
7 Crossed End
8 Harness Eye
9 Selvage Ends
10 Weak & Uneven
11 Unknown Harness
12 Unknown Shed
13 Unknown
14 Knot Slipped
15 Bad Piecing
16
17

Filling Breaks
18 Break at Transfer
19 Slub-Undrafted
20 Knot
21 Bad Bobbin
22 Bad Build
23 Inside Tail
24 Sluff-Shell-Off
25 Cutting—No Bunch
26 Rough Shuttle
27 Tension
28 Waste in Eye
29 Waste in Wind
30 Weak & Uneven
31 Unknown
32
33

Mechanical Stops
34 Bang Off
35 Knock Off
36 K.O. at Transfer
37 Bad Transfer
38 Fill. Out of Eye
39 Fill. Runout

UNIT TIMES in the second weaving test conducted were gathered on this form. Stop-watch times are recorded against each loom as observed. Recordings should be read as decimals, i.e., under "Loom," the figure 18 means 0.18 min.

Summary of Weaving Operating Studies

Mill — Date

Test	Total	
Date and Shift	Summary	
Product Description	S/xx	
Man Hours Studied	52.98	
Machines Assigned	-	
Producing Delivery Hours	189.00	
Classification	No.	%
WARP		
Balls and Mats	2	.3
Slugs and Waste	5	.7
Knot	16	2.1
Knot Slipped	86	11.4
Slub-Undrafted	-	-
Slack End	19	2.5
Tie Back	14	1.9
Crossed End	13	1.7
Weak and Uneven	193	25.6
Bad Piecing	88	11.7
Unknown Harness	5	.7
Unknown Shed	-	-
Unknown	67	8.9
Miscellaneous	19	2.5
Total Warp Stops	527	70.0
Warp Stops/PLH	2.79	
FILLING		
Break at Transfer	58	7.7
Rough Shuttle	-	-
Knot	2	.3
Bab Bobbin	3	.4
Bad Build	17	2.3
No Bunch	4	.5
Waste in Wind	2	.3
Waste in Eye	7	.9
Weak and Uneven	4	.5
Unknown	53	7.0
Miscellaneous	20	2.7
Total Filling Stops	170	22.6
Filling Stops/PLH	.90	
MECHANICAL		
Knock Off	37	4.9
Knock Off at Transfer	2	.2
Bad Transfer	9	1.2
Filling Out of Eye	3	.4
Filling Runout	5	.7
Total Mech. Stops	56	7.4
Mech. Stops/PLH	.29	
GRAND TOTAL STOPS	753	100.0
TOTAL STOPS/PLH	3.98	

Summary of Weaving Time Studies

Mill — Date

Test	Summary		
Date			
Operator and Shift	-		
Observer	-		
Product Description	-		
Man Hours Studied	38.96		
Machine Make Model	C&K-W-2,W-3		
Delivery Speed	113,114,117&118 PPM		
Machines Assigned (Del.)	6		
Producing Delivery Hrs.	208.16		
Test Efficiency	89.0%		
Classification	Min.	%	
Start Warp Stops	373.61	16.0	
Start Filling Stops	100.03	4.3	
Start Mechanical Stops	29.30	1.2	
Total Weaving	502.94	21.5	
Clear Warp-Running	30.33	1.3	
Clear Warp-Stopped	19.25	.8	
Fill Batteries	239.35	10.2	
Doff Cloth	15.71	.7	
Misc. Scheduled	49.77	2.1	
Total Work-Weave	857.35	36.6	
Walk to Loom	93.02	4.0	
Inspect After Start	29.69	1.3	
Walk to Fill Batteries	60.12	2.6	
Front Patrol	28.10	1.2	
Back Patrol	58.92	2.5	
Total Work-Walk-Inspect	1127.20	48.2	
Misc. Unscheduled	14.66	.6	
Spare and Personal	1198.00	51.2	
Total Non-Working	1212.66	51.8	
Grand Total	2339.86	100.0	

Classification	Unit	No.	Unit Time
Start Warp Stops	Stop	565	.661
Start Filling Stops	Stop	236	.424
Start Mechanical Stops	Stop	91	.322
Total Stops		892	-
Clear Warp-Running	Oper.	45	.674
Clear Warp-Stopped	Oper.	19	1.013
Fill Batteries	Bobbin	3617	.066
Doff Cloth	Cut	15	1.047
Misc. Scheduled	PLH	208.16	.239
Walk to Loom	Stop	892	.104
Inspect After Start	Stop	892	.033
Walk to Fill Batteries	Bobbin	3617	.017
Front Patrol	Lm. Passed	352	.080
Back Patrol	Lm. Passed	389	.151

SUFFICIENTLY NORMAL CONDITIONS were shown in this test. So time studies to establish proper workload requirements and loom assignment were started.

AFTER FIVE FULL STUDIES of two separate weavers operating on six-loom assignments, efficiency was found to be 89.0%.

Working-weaving time was only 36.6% of the total. Working-walking time and inspecting time took up 48.2% of the weaver's time.

Based on these facts, the six-loom job was an obvious underload because 85%, not 36.6%, activity is considered normal.

Step 4 Workloads

The final phase of the process of realigning workloads and machine assignments is the progressive use of the units and unit times established in the operating and time studies made earlier in the work.

Standard Weaving Production and Task

Mill _____ Oz./Yd. Wov. 8.09 Fin. 7½ Department Weaving

Date Sept. 1950 Tot. Ends 2160 Warp Yarn Range-Style-Pattern xx

Weave Plain Yds./Pc. Dress 75 Wov. 69 Fin. 70 Width Reed 68.6 Fin. 57

Pcs./Beam 18 Looms/Weaver Loom C&K W-2

Picks/In. 30 Picks/Minute 113

Filling:

Yarn Count	Lot No.	Lbs. Filling /Yard Cloth		Net Lbs./Bobbin		Bobbins /Yard Cloth		100% Yards /Loom Hour		100% Bobbin /Loom Hour
		.2388	÷	.0828 (-2%)	=	3.61	x	6.28	=	22.67

Standard Loom Efficiency

	Stops/PLH		U. T.		Loom Min.	Per Cent
Producing Time (Loom Efficiency)					60.000	89.3
Weaver's Weaving—Warp	2.79	x	.661	= 1.844		
Fill.	.90	x	.424	= .382		
Mech.	.29	x	.322	= .093		
	3.98			Total	2.319	3.5
Waiting Weaver's Attention					3.831	5.7
Fixer's Fixing					.134	.2
Waiting Fixer's Fixing—% from Studies 9/18-9/21/50					.067	.1
Pickouts and Smashes					.470	.7
Cleaning and Miscellaneous					.134	.2
Warp Out (Basis of Warp Out) 113 PPM x 50 Min./Change x 60 / 30 Px/In. x 36 x 1350 Yds./Warp =					.233	.3
Total					67.188	100.0%

Weaver's Standard Task

Per Loom Hour

Operation	Unit	@100% Eff.	@Std. Eff.	Oper. Min./	Min. Per Loom Hour	Per Cent of Total
Start Warp Stops	Stop	2.79	2.49	.661	1.646	37.9
Start Fill. Stops	Stop	.90	.80	.424	.339	7.8
Start Mech. Stops	Stop	.29	.26	.322	.084	2.0
Total Weaving					2.069	47.7
Clear Warp—Running	Oper.	.116	1.104	.674	.070	1.6
Clear Warp—Stopped	Oper.	.075	.067	1.013	.068	1.5
Misc. Scheduled	PLH	1.000	.893	.239	.213	5.0
Total Work—Weave					2.420	55.8
Walk to Loom	Stop	3.98	3.55	.104	.369	8.5
Inspect after Start	Stop	3.98	3.55	.033	.117	2.7
Front Patrol	Lm. Passed	-	6.00	.080	.480	11.1
Back Patrol	Lm. Passed	-	2.00	.151	.302	6.9
Total Work—Walk—Inspect					3.688	85.0
Spare and Personal					.651	15.0
GRAND TOTAL					4.339	100.0

CALCULATED LOOMS/WEAVER @ 85% TASK—

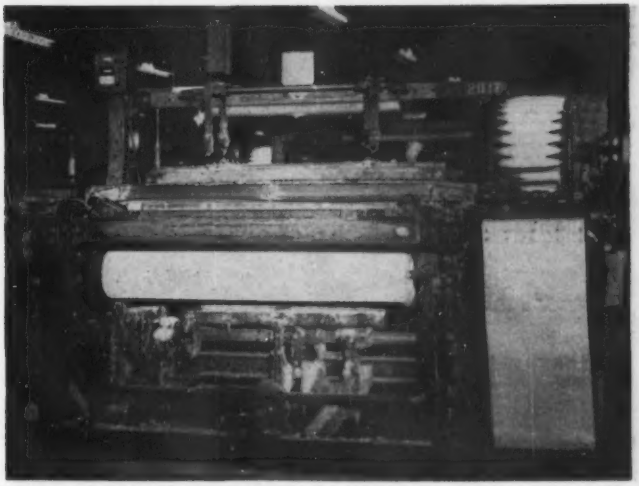
60 ÷ 4.339 = 13.83 LOOMS

12 LOOMS = 73.8% TASK

GUIDED RECORDING of all relevant statistics is made possible by this form. The final task set for the weaver keeps him busy 73.8% of the time on scheduled tasks. 85% is considered normal.

With the percentage as shown above, the weaver handles 12 looms instead of six. But several items that are not strictly weaving were eliminated from the weaver's job.

New job specifications were written for weaver, battery hand, and cleaner-oiler. The battery hand's job, an entirely new one for this mill, required particular attention.



SHELTER-TENT DUCK and other light ducks can be woven on Model-E looms 30 to 40 in. wide. Only a few alterations need be made or attachments added in order to have the loom ready to start.

JERKED-IN FILLING is a frequent defect in ducks. To prevent it, the thread cutter should make a clean cut and hold securely.

To WEAVE DUCK on Plain Looms . . .

▶ *With proper attachments, settings, and common-sense maintenance, your cam looms can produce first-quality duck. Here's the information on what's needed and how to use it.*

By W. C. WESTBROOK, *Consulting Editor, TEXTILE WORLD*

1. . . . Pick the right duck to produce

Many looms now producing plain cloth, twills, and sateens can be converted to duck with a few alterations or attachments. With the exception of wide sheeting looms and looms designed primarily for the weaving of rayon, some weights of duck can be woven on practically all cam looms less than 40 in. wide. Duck is not an easy cloth to weave, even on looms especially designed for its production, and some obstacles will have to be overcome when using lighter looms of the E- and X-Model classes.

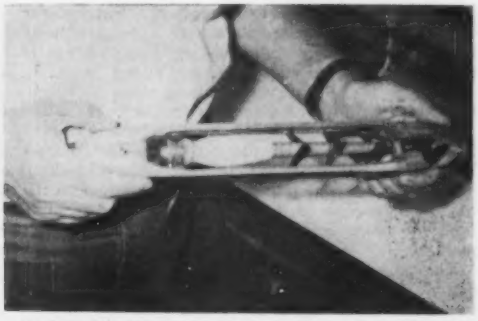
The accompanying table shows the types of duck that can be woven on various models of proper looms.

2. . . . A positive shedding motion is essential

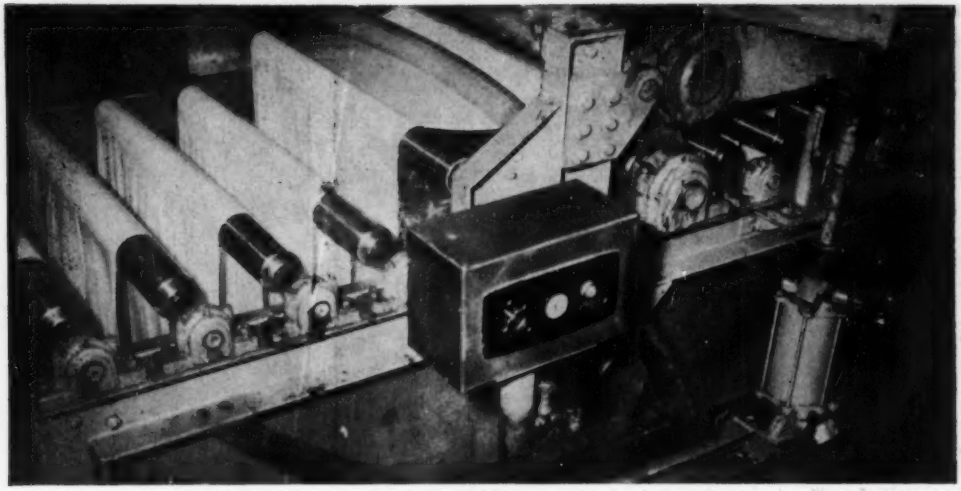
Warps for duck are made of either ply yarn or what is known as laid warp. A positive shedding motion is

(Continued on page 284)

THE FILLING FEELER requires constant attention and care because bobbins are changed much more frequently than on light fabrics, and the heavier yarn forces the feeler out of adjustment more easily.



SEVERAL BRUSHES of medium or heavy bristle will be needed to hold the filling correctly. The number and size varies with the yarn count, twist, and loom speed.



WASHERS are equipped with "Micox" rolls to keep the fabric properly stretched and with elliptical bottom rolls that increase agitation. Air cylinders, one of which is seen on the right, maintain pressure on the squeeze rolls. Cylinder speed and roll pressure are controlled through the panel control box in the center.

New BLEACHING RANGE
Cuts Costs, Raises Quality at Dundee

HIGHLIGHTS: *New open-width range at Lowell Bleachery South saves production time and gives a more uniform bleach—Heavy goods run at 70 to 80 yd. per min.; lightweight goods at 90 to 100 yd. per min.*

By E. DALTON WHITE, *McGraw-Hill Atlanta Bureau*

THE NEW OPEN-WIDTH continuous-bleaching equipment at Dundee's Lowell Bleachery South, Griffin, Ga., is saving production time and improving bleaching quality. Specific advantages gained are more economical operation and a more uniform bleach.

Featured in the new bleaching range are the elliptical bottom rolls designed and installed by Greenville Steel & Foundry, Greenville, S. C. This type of roll is believed to be more efficient than round rolls because it has a tendency to shake the liquid from the fabric before the next immersion.

The range itself consists of a singer; desizer; hot-water washer (temperature 140 to 160° F.); a caustic saturator (140° F.); J-box (214° F.); two hot-water washers (140 to 160° F.); peroxide saturator (room temperature); J-box, same as the first one; hot-water washer (160° F.); and dryer.

Stainless steel predominates in the construction of the equipment. Each squeeze roll is individually powered by a 7½-hp., 1,750-rpm., 230-volt d.c. General Electric motor on the front rolls and a 10-hp. d.c. motor on the back rolls.

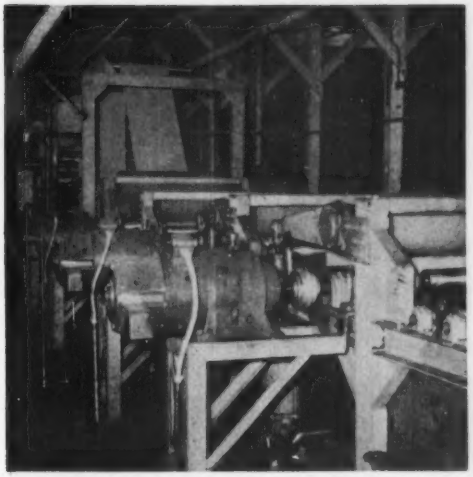
Top rolls are rubber covered, while bottom rolls are of stainless steel. Air pressure on the squeeze rolls is maintained at 38 lb. per sq. in. on normal runs, but it can be varied to meet production requirements. Roll pressure is automatically controlled after instrument setting.

DRY CANS. The steam-cylinder dryer is installed at the end of the bleaching range. It is driven by a 15-hp., 1,150-rpm., 230-volt General Electric d.c. motor. Cylinder pressure varies from 15 to 25 lb. per sq. in., depending on the weight of goods being processed. Condensate from the cylinders is trapped off to the return line to the boiler room.

In order to prevent steam vapors from circulating in the bleachery and to improve working conditions, a stainless-steel transite hood has been constructed over the dryer. A fan in the ventilator quickly carries heat and vapors to the outside.

HOW THE RANGE OPERATES. All material to be vat dyed is brought into the bleachery and sewed. It is then placed on the range to be singed, desized, and washed before it enters the caustic bath. Washing is done at temperatures varying from 130 to 160° F.

From the washer the goods go to the caustic saturator (140° F.), where they pick up from 4½ to 6% caustic. A solution of 50% caustic is fed into the tank, and strength is automatically controlled at the required caustic percent necessary for the particular type of goods being processed. Titration tests are made every 30 min. as an



SQUEEZE ROLLS have individual 7½-hp. motors, but the motors are synchronized to maintain uniform tension on the goods. Top rolls are covered with rubber, and bottom rolls are stainless steel.

THE SATURATOR baths are fed from central storage tanks with automatic controls to maintain proper bath concentration. Goods in the 50% caustic solution pick up 4½ to 6% caustic.

added check to insure proper caustic strength.

From the caustic bath the goods go to the first J-box, where heater tubes are maintained at 210° F. The temperature in the J-box is 214° F. Cloth temperature is maintained at 204° F.

The J-box is loaded with enough cloth to run an hour, the number of yards depending on the weight of the goods.

Leaving the J-box, the goods go to a hot-water washer (140 to 160° F), where they are given four immersions and a squeeze. This process is carried on four times before the goods go to the peroxide saturator.

In the saturator the solution is made up of sodium silicate, caustic, and hydrogen peroxide and is maintained at room temperature. The goods pick up about 1% peroxide and then go to the second J-box.

From the second J-box the goods go to a hot-water washer (160° F), where they get four immersions and a squeeze, followed by four more immersions and a final squeeze before they pass to the dryer.

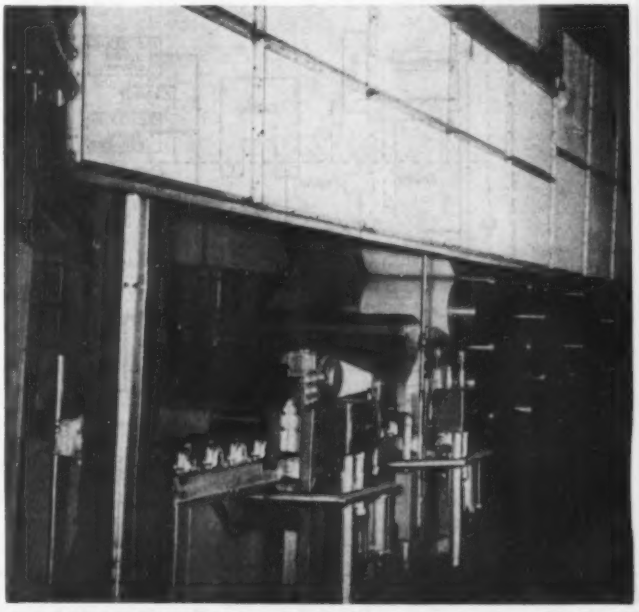
There are four series of ten steam cylinders (a total of 40) in the dryer range.

CLOTH SPEED. Cloth speed is controlled at each roll nip by a variable-speed drive. All drives are synchronized to produce uniform tension.

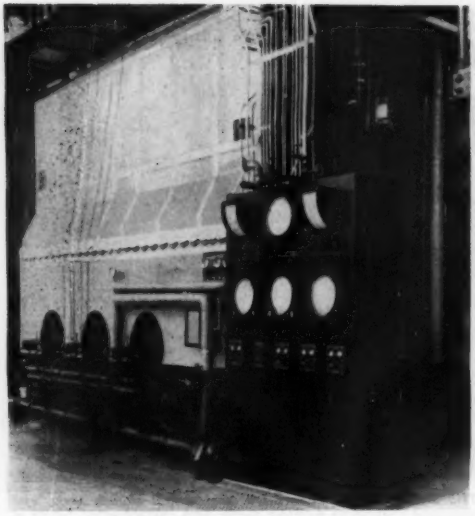
For lighter-weight goods, the bleach range is operated at 90 to 100 yd. per min. On drills, twills, ducks, and sheetings, the speed is 70 to 80 yd. per min. On some goods, the mill has operated as fast as 120 yd. per min. successfully.

Chemicals are received at the mill in tank cars. Caustic is stored in two 17,000-gal. tanks, and peroxide is stored in one 8,500-gal. tank. Concentrates are pumped to mixing tanks from which the solutions flow by gravity to the bleaching range.

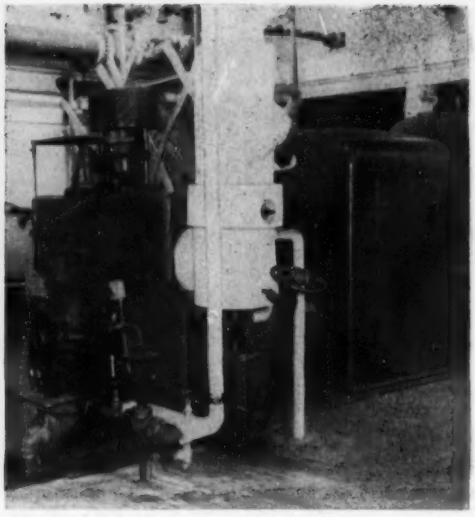
Since installation of the new range, the plant has turned out, on an average, about 100,000 yd. of bleached goods in a three-shift 24-hour day.



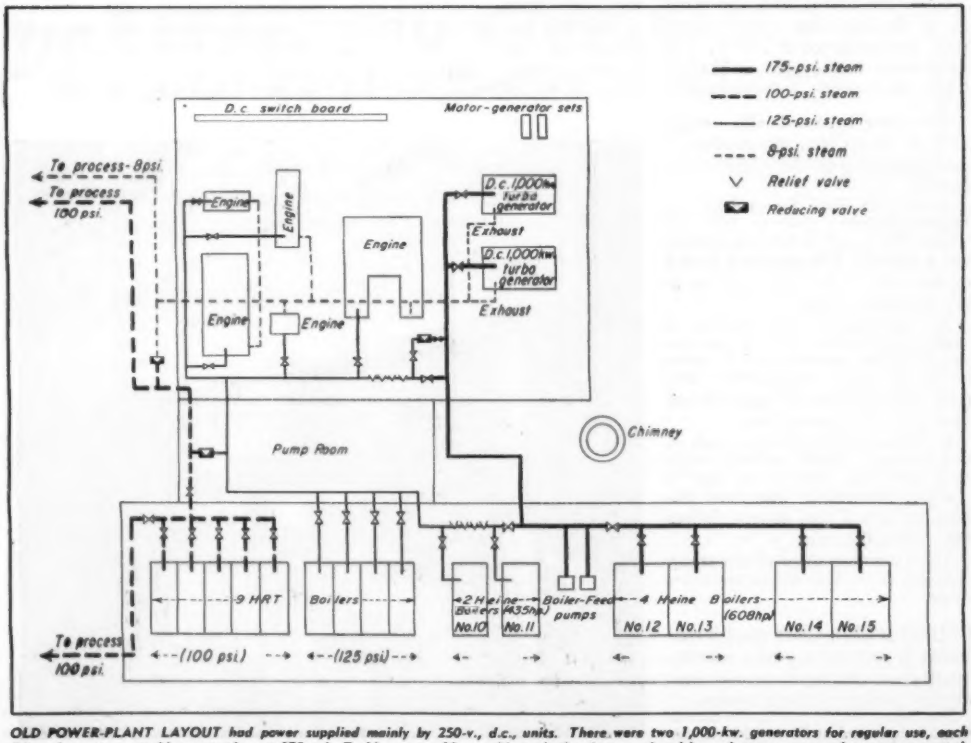
DRY CANS are driven by a 15-hp. motor. A hood, with an exhaust fan and an opening to the outside, removes damp, hot air from the drying area. Forty dry cans are used.



NEW PACKAGE-TYPE BOILERS (Babcock & Wilcox) have jet oil burners, a Bailey combustion and two-unit water-level control, and a forced-draft fan each. With an average water rate of 30 to 35 lb. per kw. hr., steam sent to the turbines is about 75,000 lb. per hr.



1,000-KW. STEAM-TURBINE GENERATOR (General Electric) provides the plant with an assured capacity of 835 kw. even with the largest generating unit out of service. Thus adequate electrical-generating capacity is assured for several years.



OLD POWER-PLANT LAYOUT had power supplied mainly by 250-v., d.c., units. There were two 1,000-kw. generators for regular use, each driven by a steam turbine operating at 175 psi. Turbines were 25 yr. old, and the four engine-driven dynamos were also superannuated. A.c. needs were supplied from a second-hand 500-kw. a.c. turbo-generator purchased during World War II, together with three small motor-

Modernized POWER PLANT Gives More Economical Service

- *Old boilers replaced by more efficient units*
- *Live and process steam made more flexible to use*
- *Generating equipment strengthened by new machinery*
- *Heating and electrical-distribution facilities centralized*

By MILES SAMPSON, *Plant Engineer, Mount Hope Finishing Co.*

THE POST-WAR boiler-plant program at Mount Hope Finishing Co., North Dighton, Mass., included the following improvements:

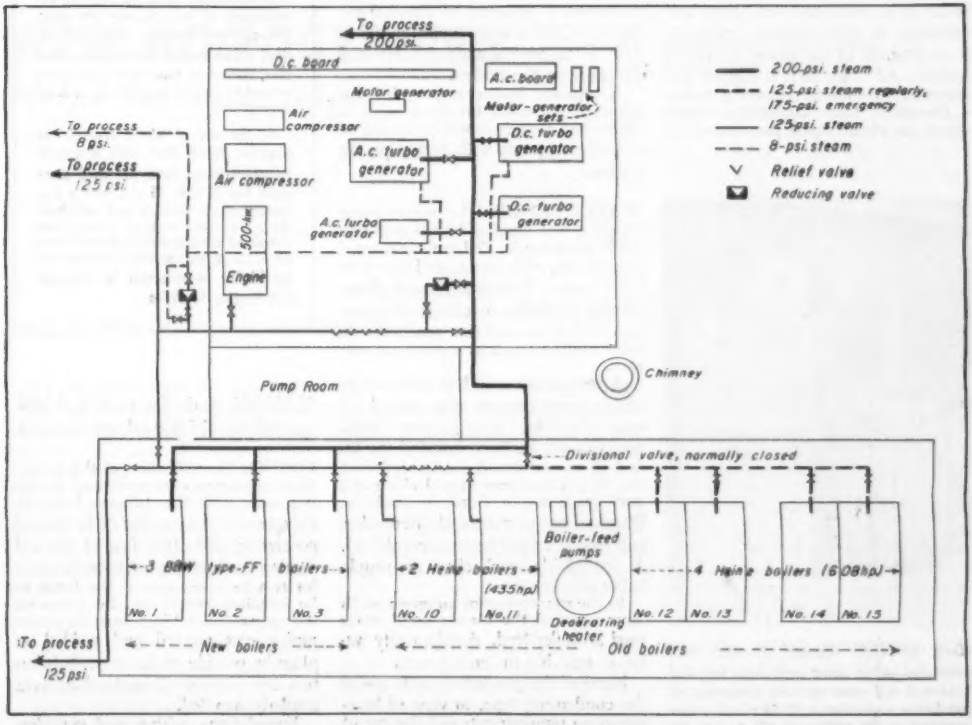
1. **New boilers of capacity sufficient to deliver all steam necessary for power generation even with one unit out of service.** This meant three units at 50,000 lb. per hr. each. The design conditions covered all the pressure the old turbines would stand (200 psi.), plus 100° F. superheat at the throttle.

2. **A simple boiler-plant layout in the existing buildings, oil-fired, without air heaters, and relying on the existing 200x12-ft. stack for natural induced draft.** Operation of the boiler plant by two men per shift was required.

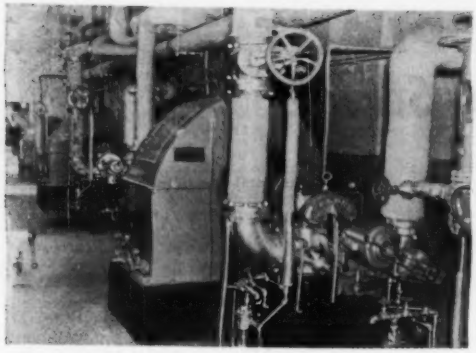
3. **Elimination of the 100-psi. steam service, replacing the nine 45-yr.-old horizontal-return tubular boilers with three Babcock & Wilcox type-FF boilers.** The six old Heine boilers retained in service were held for operation at 125 psi. for process work and for steam-engine power during emergencies. Four of these boilers, originally operated at 175 psi., are, of course, available for 125-psi. operation.

4. **Modernization of feed-water heating and deileration, water conditioning, and control.** This improvement included a continuous blow-down-heat recovery for all boilers, new and old.

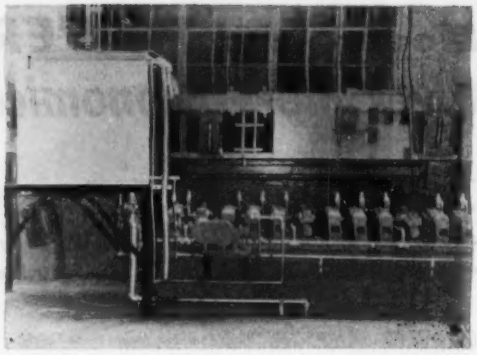
5. **Concentration of process-water heating by exhaust steam at the boiler house.** Water is delivered to a 100,000-gal. service tank as a source of supply for mill requirements. The tank system effectively replaces worn-out storage heaters that were at the



generator sets, a.c. to d.c. New power-plant layout (above) has three new boilers, two (one new and one previously purchased) a.c. turbo-generators, and two compressors (one new and one moved from elsewhere). Four engine-driven dynamos have been eliminated in the new layout at the Mount Hope Finishing Co.



FORCED-DRAFT FANS (Green Fuel Economizer) driven by a Moore turbine have been installed, one for each new boiler. Steam-driven feed pumps are also used with the boilers, which in turn have a 50,000-lb.-per-hr. rating per boiler and an additional third unit to insure stand-by capacity.



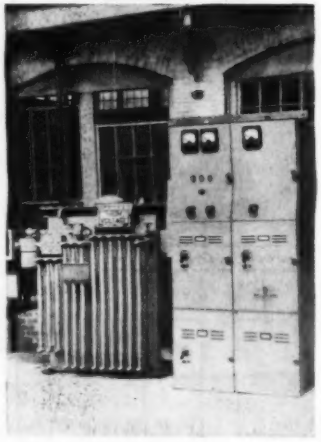
CHEMICAL-FEEDING UNITS (Proportioneer), one per boiler, aid the 300,000-lb.-per-hr. deaerating heater (Cochrane) in giving flexible positive-displacement treatment to boilers. Treatment is based on regular sampling and testing. Formerly homemade equipment did the heating and deaerating.

time located around the plant, and it relieves the process lines serving them as well.

FURTHER IMPROVEMENTS. Steam for building heating now comes off the 8-psi. line. It is used in vertical downdraft heaters in the mill areas instead of in outmoded wall pipes and radiators. In office sections, a program is in progress to use newer convector heaters. All condensate is trapped and returned to suitable receiving tanks.

Formerly four 20,000-gal. tanks mixed in about equal proportions of live steam and cold water, for processing purposes. Now three instantaneous hot-water heaters of 25,000-gal.-per-hr. capacity each can take pond water at 40° F. and raise it to 180° F., using steam from the 8-psi. heater. These heaters are manually controlled to avoid wide load swings. A hot-water reservoir of 100,000-gal. capacity holds a water supply at 160 to 170° F. to prevent sudden heavy-load demands on the boilers.

A separate heater is provided for domestic hot water for the feeding of offices and shower rooms by means of a circulating pump with its own piping system.



LOAD CENTERS (General Electric) with metal-clad switch gears have been installed in several mill areas to take advantage of distribution economies at 4,160 v. and transformation at the centers to 440 v., a.c., for mill use. A.c. motor drives are planned for all future constant-speed power applications.

WATER SET-UP. The process-water supply is now handled by either of two 4,000-gal.-per-min. DeLaval centrifugal pumps, one with an a.c. and one with a d.c. motor. This arrangement allows enough flexibility in choice of operation of the a.c. and d.c. generators to meet routine repair or emergency outages.

A compressor area has been set up where steam engines were junked. A new 17x13-in. Worthington dual-pressure unit has been installed for 30- and 50-psi. service. A similar used unit for 30 psi. has been moved alongside, and space for a third is available. Standard arrangements of aftercoolers and receivers have been accomplished. A dependable, cool, clean air supply is the result.

In the modernization program, wells have replaced the former pond water used in boiler feed. Auxiliary city water is available for emergencies.

None of the generating units are of the condensing type, in view of heating-steam requirements and the use of exhaust from the turbines. Fuel oil is trucked to the plant. There are two 55,000-bbl. tanks for main fuel storage and two 175,000-gal. service tanks.

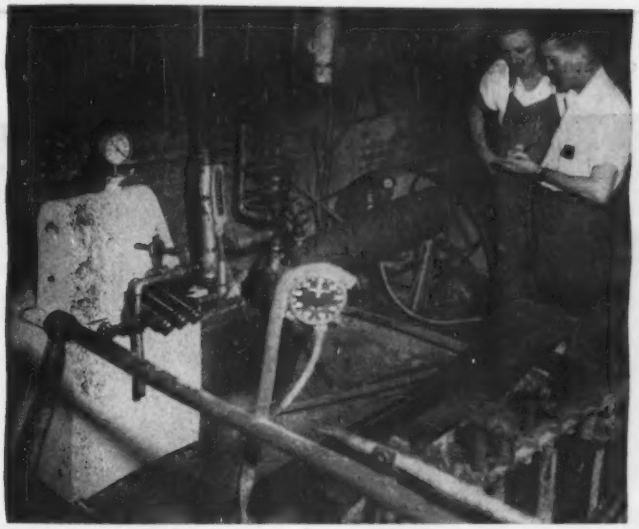
PIPING. Simplification of the power-plant piping was accomplished by doing away with the 100-psi. lines, by reduction in the number of boiler and generating units (the first of the old engines has been junked to make space for two turbines, one of the latter to be installed later), and by extensive rearrangement. All high-pressure-power piping was erected and welded in place by outside contractors. Fabrication and erection of smoke flues were similarly handled.

Foundations, wiring, and considerable pipe work were done by company men.

Over the years...

Mount Hope Finishing Co.'s heating and power requirements have become highly diversified because of the varied operations taken on and the development of business over the years. The company bleaches, dyes, and finishes woven cotton and synthetic textiles, converting them from gray goods into white and colored fabrics of many descriptions.

At the end of World War II, the company found itself with a greatly increased power load per yard processed (up 50% in 25 yr.), with a stationary steam demand per unit handled. The then existing power plant contained considerable equipment from 20 to 25 yr. old; so the time was ripe for further improvement in electrical and heating facilities.



HOMOGENIZER AND HEAT EXCHANGER are inspected by J. H. Doster, slashing overseer, and Max Silman, weaving overseer, Jefferson Mills. In the heat exchanger, a cold slurry of starch is heated to a paste. The paste is then converted to size in the homogenizer.

Principle of the New Homogenizer

The Jefferson Mills installation is one of the first of a new type of homogenizer. The conventional unit breaks down starch granules by forcing the mix, under pressure, through an accurately set valve-and-seal arrangement. Jefferson's homogenizer, the Hydropulse, uses a piston and a rubber pulsator to alternately create vacuum and pressure that operate ball-type valves. The unit is said to be able to operate dry without damage because there are no rubbing parts. The entire operating mechanism is separated from the size at all times.

The Hydropulse consists of two elements: (1) the heat exchanger in which the cold slurry mix is heated to 184° ±2° F. and converted to a starch paste, or sludge; (2) the high-pressure homogenizer that continuously converts this heated starch paste into a usable size.

NEW HOMOGENIZER Helps Jefferson Mills

- *Starch costs are cut*
- *Quality is improved*
- *Equipment pays for itself in 9 mo.*
- *Only fresh size is used*

By S. F. BRYAN, *Treasurer, Jefferson Mills, Inc.*

WARP-SIZING TESTS with homogenized size mixes were started at our mill in October, 1950. At that time we were able to obtain satisfactory slashing and weaving performance, but we were not satisfied with the procedure of heating the mix to 200° F. in the cooking kettles. It was impossible to get all of the very viscous, heated, starch paste out of the kettles and into the homogenizer. We did not approve of the expedient of leaving some of the "sludge" in the bottom and on the sides of the kettle to be mixed with the cold water and reheated for the next batch.

We started the operation of a Scott & Williams Hydropulse unit in January, 1951. We have carefully watched its performance and from time to time have made minor adjustments and changes in the accessory equipment on the original apparatus. At present we feel that this unit has overcome all of our previous objections and is giving us continuous preparation of superior warp size for our slashers. The unit we operate has a capacity of 150 gal. per hr. and handles our slasher requirements with capacity to spare.

The mill is on three-shift operation. Our two three-cylinder slashers, one 60 in., the other 72 in., operate two full shifts. We use one size mix and about 60 gal. of size per hr. for each slasher. Our 16s warps vary from 1,400 to 4,800 ends. Slasher speeds vary from 45 to 78 yd. per min. depending on the type of warp going through.

Installation Used Some Old Equipment

When the unit was installed, we kept our 200-gal. storage kettle intact but made several changes in piping. One cooking kettle was kept as a slurry-mixing tank. This tank was piped directly to the booster pump of the heat-exchange elements. The mix gelatinizes to a heavy starch paste as it passes through this steam-jacketed heat exchanger. From here it goes through the homogenizer to be stored.

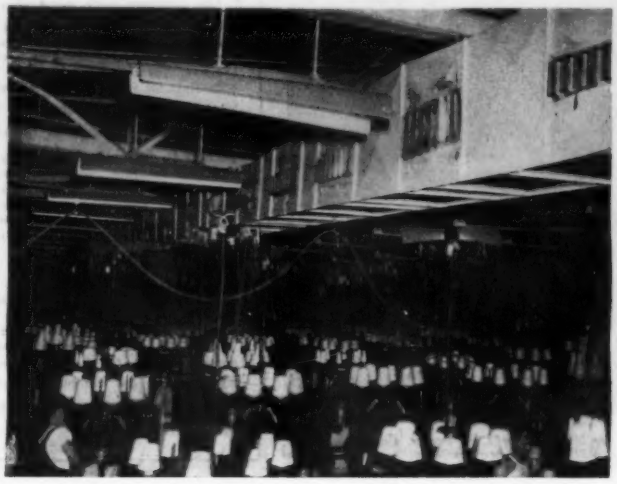
In the slurry tank we mix pearl starch, liquid compound, and cold water. The concentration of pearl starch is 15 oz. per gal. This is a cold mix, and we have found that we can keep this slurry—properly agitated—in the slurry tank as long as desired without loss of quality.

With the present system we are using only pearl or thick-boiling cornstarch. We used to use thin-boiling corn starch exclusively.

We keep about 60 gal. of prepared size in the storage tank ahead of slasher requirements. This allows us to operate the setup intermittently and to regulate our size preparation according to our size-box consumption. One switch operates the whole unit, and the Hydropulse can be left standing without flushing or without loss of steam when the mix is not being processed.

(Continued on page 250)

Uniform distribution of air means less "warm up" time, less lint



CEILING-MOUNTED METAL DUCTS distribute air uniformly throughout the knitting room. Uniform machine temperatures are maintained. Blow-offs are less frequent.

LESS LINT in the air, a direct result of the air-washing installation, means an easier job.

AIR-WASHING System Improves Knitting Quality

▶ *Fewer cloth defects and broken needles—two results of shorter "warm-up" time—have been obtained at E-Z Mills knitting plant by installing a central air-washing system. Other advantages were gained too—read about them in this story.*

By **E. DALTON WHITE,** *McGraw-Hill Atlanta Bureau*

A NEW CENTRAL AIR-WASHING SYSTEM installed at the E-Z Mills knitting plant at Carterville, Ga., has helped maintain uniform knitting quality. The new system reduces the "warm-up" period of the machines with the result that there are fewer defects and broken needles. In addition, fly in the air is reduced, maintenance is low, and the system is economical.

The System and How It Works

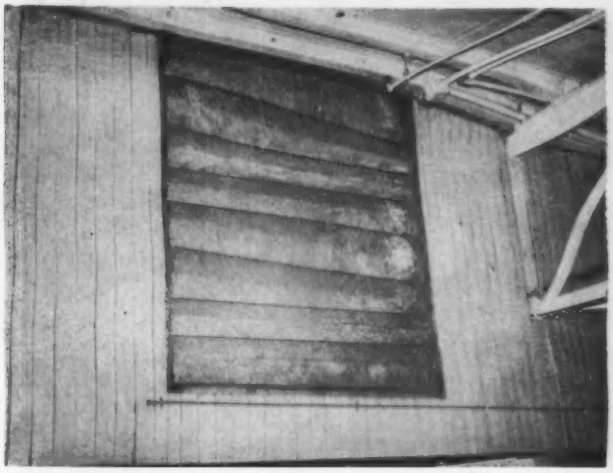
A Parks-Cramer central-station air-washing system can be regulated to maintain humidity automatically at desired limits at all times. The evaporative-cooling effect of the washed air tends to lower inside temperature during hot weather.

A temperature of at least 80° F. can be uniformly maintained by steam heating coils of the copper-tube type with extended-surface tubular coils when the outside temperature is below that level.

The system is designed to handle 47,000 cfm. The air within the knitting room is recirculated after washing and brought up to desired relative humidity and temperature. Additional fresh air is automatically drawn from the outside as needed.

Another feature of the system is that the water pump is automatically controlled to provide enough additional moisture to maintain the level of relative humidity in the circulated air.

Air is recirculated and conditions automatically controlled



KNITTING-ROOM AIR is drawn through these ceiling-mounted louvers, and passes through the washer to the blowers for recirculation. Floor space for the central-air system was saved by constructing this balcony room over the mill's machine repair shop.

DESIRED TEMPERATURE and relative humidity are set on a Parks-Cramer Psychrostat that is conveniently mounted on a column.

E-Z Mills has found that a temperature of 80° F. and 60% relative humidity produces the best knitting results. Also, working conditions are comfortable at these levels.

Warm-Up Time Is Reduced

In respect to machine operation, the system has several advantages. Of first importance is the speed with which knitting machines reach best operating conditions during cold weather. The warm, moist air is uniformly circulated throughout the knitting room through a system of ceiling-mounted metal ducts. Each machine responds quickly in attaining best operating conditions.

Knitters report that before the system was installed the early-morning warm-up period of the machines was the most troublesome. There were stoppages and needle breakage, and defective knitting resulted. Now the machines warm up quickly, and maximum operating efficiency is reached in short time. There has been less needle breakage.

Less Fly in the Air

The maintenance of uniform and controlled humidity has cut the amount of fly in the air. Fly now tends to collect and settle to the floor, where it can be easily removed. The recirculation of room air through the washer eliminates a great deal of the fly and dust that is normally found in knitting rooms.

This reduction of fly in the air has meant less time required for machine blowoff and cleaning. Less lint in the air has also meant less clogging and cleaning of machine parts.

Additional advantages found are that the controlled inside atmospheric condition has reduced kinky yarn on machines, increased yarn strength, eliminated static electricity. Better yarn condition has also been maintained. With the central-air system, no free moisture comes into the room and there is no chance of wetting the yarn or equipment. These advantages have spelled out uniformly high-quality knitting throughout the seasons.

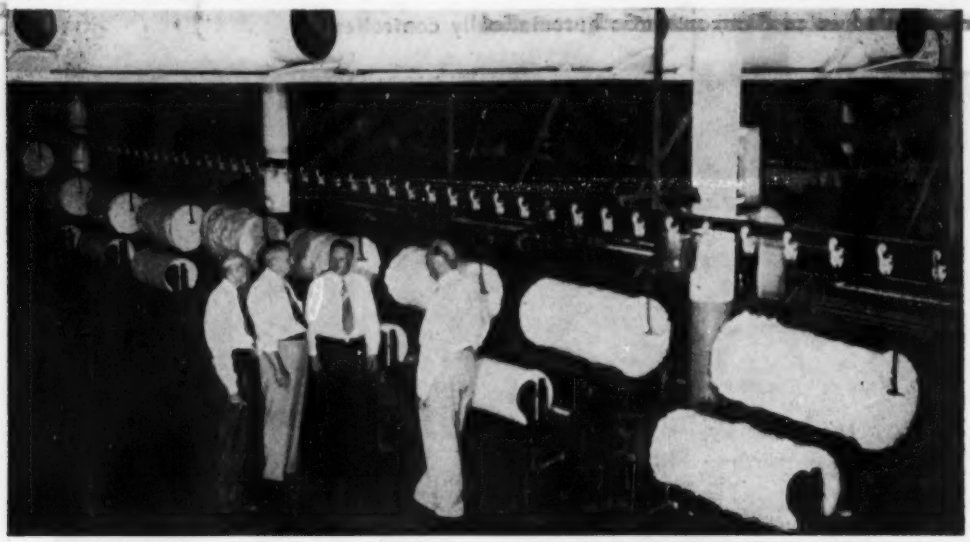
Maintenance Is Simple

Maintenance of the air system presents no serious problem. The screens in the washer are cleaned each day. Once each week the entire machine is washed down with a hose to remove accumulated lint. Motors and pumps are lubricated as recommended by the manufacturers.

E-Z Mills' experience has been that the central air system is economical to operate. While actual data on needle breakage and machine stoppage due to lint accumulation on the yarn and variance in yarn moisture are not available, E-Z's experience has been that both quality of knitting and operating efficiency have improved.

The 47,000-cfm. system is installed in the new plant addition where 175 knitting machines are installed. The mill regularly operates between 110 and 115 machines.

The plant's production all goes into circular knit goods for men's and boys' athletic shirts and shorts and children's knit underwear.



1 *LAPS ARE LAID in the cards directly from the conveyors. Overseer Jonas Long (second from left) is shown as he tells the visitors, "We card at 10 lb. per hr. and use high-compression calender rolls on all 152 cards. We can get about 17½ lb. of the compressed sliver in a can, and our drafting is not affected. We use continuous strippers and hand-strip the doffer once a day and the cylinder once a week. Since we have put in continuous strippers, we have cut down our frequency of grinding." You can see the Bahnson Humiduct system that keeps the room at 72 to 75° F. and 55 to 60% r.h. Storage areas are marked off, as at lower left in picture, for trucks, etc.*

TAKE A TW TOUR:

A MODERNIZED COTTON MILL—
Kendall Mills Oakland Plant

► *This 40-year-old mill has been doubled in size and brought up to date in a two-year expansion and rehabilitation program. It has modern processing equipment, efficient materials-handling devices, a new air-conditioning system, and fluorescent lighting. Join Dr. Robert F. Poole, president of Clemson College; Hugh M. Brown, dean of the School of Textiles, Clemson College; and Dr. Harry H. Barre, retired, former head of cotton-fiber research, USDA, on a tour of the plant.*

By W. A. THOMASON, JR.
Southern Editor, TEXTILE WORLD

The new Oakland plant of Kendall Mills, Newberry, S. C., is a modern cotton spinning and weaving mill. We say "the new Oakland plant," even though it is over 40 years old, because it has been completely rehabilitated and doubled in size over the past two years.

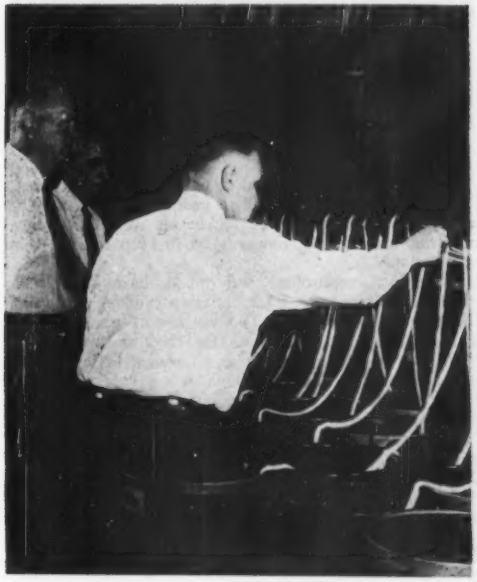
During the modernization, windows in the mill proper were bricked up, and pressure dampers were installed for the air-conditioning system. The steam plant was extended 14 ft. to make room for a new boiler. A new cotton-storage warehouse and opening room were built.

The Oakland plant makes tobacco cloth and surgical gauze, which are finished in other Kendall plants. Two weave rooms have a total of 1,440 Model-E looms. Fabrics produced are 38½ to 42 in. in width, as coarse as 18 x 12, and as fine as 44 x 36. During the rehabilitation and expansion program, many of the looms were painted and completely rebuilt by mill personnel. An overhaul crew is completing this work on a regular schedule.

Equipment in the four-story and basement building is

2 *PICKER-LAP CONVEYOR has variable-speed drive to carry laps down each line of cards at the correct speed. This operator, William Brewington, has weighed the lap on the movable scales and is putting it on the conveyor. Each of the two conveyors is supplied by three single-process pickers and takes laps to half of the cards.*

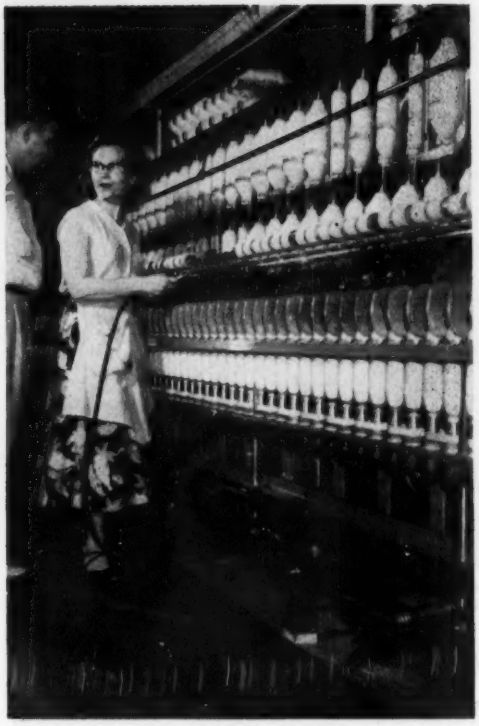
3 *LAP WINDERS with 16 ends up prepare laps for the drawing frames. The operator, T. E. Elrod, will place the lap that he is doffing on the monorail conveyor, which has a variable-speed drive. The conveyor takes the laps down the back of the drawing frames. Looking on are, left to right, Dr. Poole and Dean Brown.*



4 *THE 9x4½ FS-2 roving frames have a single litter roll, as do most slubbers on carded work. Dean Brown points this fact out to Dr. Poole and Dr. Barre. All of these frames are equipped with a Bijur centralized-lubrication system. An air-line connection is located under the end of every fifth frame.*

5 *ROVING BOBBINS are returned from the spinning room by the chute and fall on the tray-type table. The bobbin-machine operator, Ralph Kirby, is shown as he explains his job to Dean Brown, Dr. Barre, and Dr. Poole. The chute was designed by Kendall engineers and was installed by the mill shop.*

6 *AUTOMATIC CLEANING is used in the spinning room. The Parks-Cramer frame cleaner and type CTC up-draft cleaner, in tandem, are pointed out to the visitors by Overseer Robert Ray. All spinning frames are Saco-Lowell Roth type. The warp frames spin 30s, have 2-in. rings, and use New Era spindles. The filling frames spin 38.50s and 39.50s, have 1¾-in. rings, and use No. 2A McMullen spindles with large-capacity oil reservoirs. Low twist is used to give softness to the fabrics. Routine sizing and strength tests are made by the overseer; other tests to maintain constant quality are made periodically at the company's research laboratory in Paw Creek, N. C.*



7 *AN AIR-LINE CONNECTION is located under the middle of each spinning frame so that a short hose can be used for the roll picker. Rosa Thomas is shown as she tells Overseer Robert Ray that the short hose is easier to handle and that she can do a quicker job with it.*

laid out to follow as closely as possible the number one axiom of materials handling—"don't handle."

Monorail systems handle laps and beams, except in the weave room. Bobbins, both full and empty, are moved on conveyors, in elevators, or in chutes, except filling yarn. Where trucks are used, they are designed to meet the special requirements of the jobs. Cotton bales and cloth rolls for shipment are handled by a single fork lift truck.

The opening room is in a new building that also includes the cotton warehouse. A 35-bale mix of Eastern, Memphis, and California cotton is run in each of the two opening lines.

The card room has an unorthodox layout. The drawing frames are arranged in two lines, one at each side of the building, and are creeled directly from a conveyor. The roving frames are in the area between the drawing frames so that cans have to be moved only a short distance to be creeled-in.

The drawing frames are Saco-Lowell 5-roll units. They have high-compression calender rolls and cushion top rolls. They have a production rate of 10 lb. per hr.

Cleanliness is a must in surgical gauze. For this reason, the inspectors check closely for any defects detrimental to the use of the fabric as surgical gauze. The cloth rolls are sewn together at the inspection tables to make 39-in. rolls of about 10,000 yd. each.

Floors are being refinished or replaced where necessary. The Tennant system is used to maintain the floors. The use of monorail conveyors for beams in the spooling, warping, and slashing rooms helps to keep the floors in good shape.

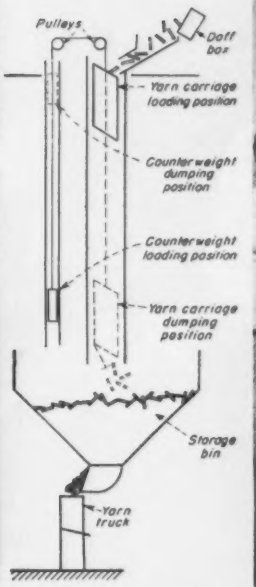
New tiled washrooms and toilets have been built throughout the plant. Each one has a smoking area and a Bradley wash fountain. The washrooms were built in a new tower that also houses the elevator shaft.

A new oil-fired boiler has been installed to replace the old HRT boiler. The new boiler is a Babcock & Wilcox 10,000-lb. per hr. unit. The old boiler is on standby for emergencies.

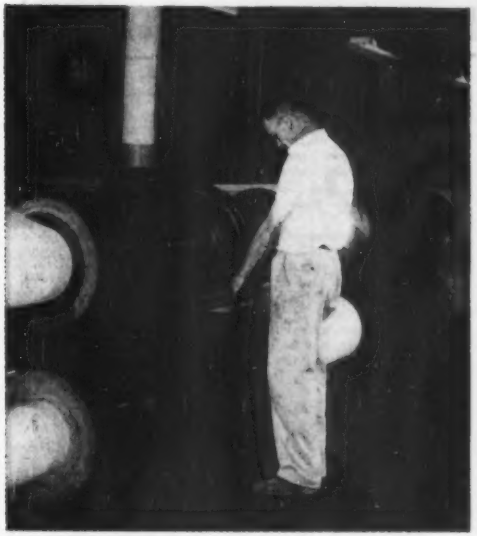
The plant was locally owned until the Kendall Co. bought it in 1926. The company put sewerage in all houses in the village and covered them with asbestos shingles. Recently, most of them were sold to mill employees.

Many of the employees have been in this plant for 20 years or longer. Several of them have worked in the plant since it opened in 1912.

The mill is celebrating the completion of the expansion and rehabilitation program with an Open House. You can see in this picture story many of the accomplishments, most of which were planned and carried out by the Kendall engineering department and mill shop.



8 *THIS YARN ELEVATOR takes all of the warp yarn from the spinning room to the spooler room. In the picture at the left, doffer Fred Coats dumps a doff into the elevator chute while George Zeigler, right, one of the engineers who developed the elevator, shows the visitors how it works. In the right-hand picture, Dr. Poole watches Leroy Bodie load a yarn truck from the hopper at the bottom of the elevator. In center is a sketch of the elevator system. Return conveyor carries empty bobbins back to the spinning room.*



9 *A MINIMUM OF SIZE is used in slashing because of subsequent treatments required for the surgical gauze. One of the five double-head slashers has Foxboro controls as a sample installation. Joe Miller, slasher foreman, is shown as he adjusts the tension on one of the two beams.*

10 *FILLING BOXES are brought to the weave room on trucks that are designed so that the battery hands can slide the boxes onto their trucks, as Dorothy Davis is doing in this picture. Each truck holds 20 doff boxes, and each box holds 360 quills, which is one full doff. The trucks were built in the mill shop.*

Major Functions of a Technical Staff

Raw-Material Control—setting up methods for evaluating new materials offered in the marketplace and for quality control of current purchases, tending to specification buying when practical.

Quality Control—setting up statistical methods of control of quality at key points in manufacture to maintain the best efficiency and to protect the quality of the final product by standards that meet competition.

Trouble Shooting—setting up engineering-slanted investigations of mill or product problems in an effort to alleviate a current difficulty and to indicate a direction for future process-development work.

Process Development—setting up of improved processes through the use of engineering improvements as they become available on the market, in trade literature, or through independent-research suggestion.

Process Engineering—setting up of a particular development to full-scale mill size, including the design of such equipment, its location, the plant layout, stock controls, and general integration into the over-all manufacturing picture.

Product Development—setting up facilities for the improvement of current products or for development of new products to comply with market demand, for more effective use of available equipment, and for adjustment to changes in available raw materials.

Product Engineering—setting up of pilot-scale new products into full-scale manufacturing procedures, of limiting controls for raw materials and the final product, and of integration into the general manufacturing operation.

In those cases in which new products require entirely new techniques, the manufacture of the new product may be operated under the technical department until the operation is stabilized and the operators fully trained.

Research—setting up facilities for the investigation of fundamental principles in fields that are indicated to be of particular importance. Work can be carried on in outside laboratories jointly supported by other organizations, or under exclusive contracts.

Fundamental research should be carried on in the company itself if it is desirable to maintain secrecy, or if the company has permanent use for men who have specialized training associated with the work, for the specialized equipment required, and for carrying on further the specialized techniques that will be developed.

Why Are Technical Services Necessary to a Mill?

The operation of a modern textile mill is becoming more and more dependent on adequate technical advice and guidance.

For example, we are entering a period of supply restrictions. Mills must make sure that available supplies are used to their maximum efficiency and that substitutes are wisely chosen. Or again, product demands are becoming more frequently tied up with technical specifications that must be checked in a laboratory. Opinions must be backed by data, and evaluations must be quantitative rather than qualitative.

A good technical advisor can guide a mill judiciously through this ever increasing and often conflicting mass of data and opinion.

What Is the Trend In Wool-Plant Laboratories?

Wool textile mills with large technical staffs (over 30 members) have found the effectiveness of their technical organization sufficiently encouraging to warrant their rapid expansion since World War II.

On the other hand, many smaller laboratories report reductions in staffs, and some are even disappearing from industrial listings.

For example, the five largest laboratories in the wool-textile field, with employees totaling 221 in 1946, gained 110 men in the four years to 1950; while 11 laboratories with less than 30 employees reduced their total reported staffs by 62 men, or nearly 30%.

Every Mill Should Have a RESEARCH EVALUATOR

- ***He should be specially trained in the scientific field . . .***
- ***He should be free to work out possible mill applications . . .***
- ***He should have a company position that commands respect . . .***

. . . He will then gradually start to "pay off"

By GILES E. HOPKINS
Technical Director, The Wool Bureau, Inc.

POLICIES UNDER WHICH textile mills operate in these days of rapid technical advance are usually sounder if there is an understanding of competitive conditions and manufacturing trends as well as of financial and legal aspects of management. And for a mill to maintain its position, there should be at least one man in the organization who is competent to understand and to evaluate scientific developments developed in laboratories and in the shops.

This man should be placed in the company set-up in such a way that his advice is given adequate consideration.

We cannot discount the importance of the individual plant chemist, the resourceful overseer, and the alert and aggressive mill superintendent. These men have brought the textile industry through a large part of its advance to date. On the other hand, advances in fiber technology, many of which are only recently becoming available, are of such a specialized nature and in sources of information so widely dispersed that it is almost imperative to have specially trained men available and free from production responsibilities who can work out their application.

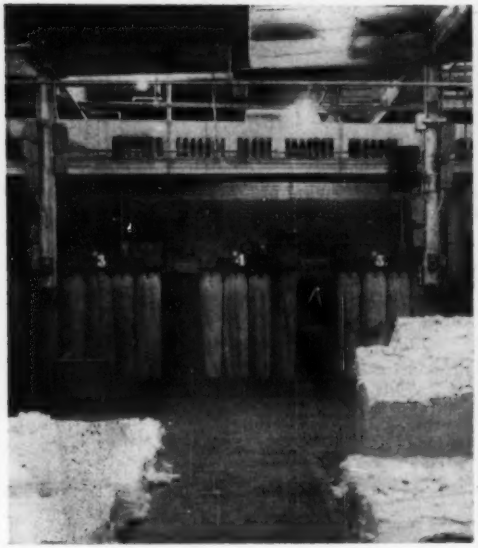
Technical applications of scientific progress are most effectively accomplished by staffs closely associated with individual mills, by men who know company policies and who understand the problems peculiar to the organization.

As a further step, various laboratories in universities and group-supported institutions engaged in fundamental research can produce the tools and can report the basic principles to be applied. But the processes which translate these tools from scientific data into profit-making applications must be developed, or at the very least, selected by the mill itself.

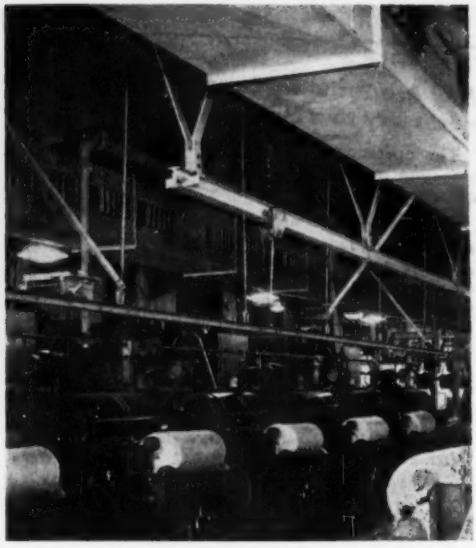
GROWTH IS SLOW. It is well established that the most successful technical programs in mills grow slowly as they prove their worth. To assure constructive growth, it is important that even the initial program should be undertaken with an understanding of the function of technical activity. Such an understanding has an important bearing on the selection of the leader or the first technical man in the program, his integration into the over-all organization, and the lines of authority under which he is going to operate.

After he has been selected, a new director should spend some time orienting himself on the company's policies and facilities. These studies gradually work into advisory functions

(Continued on page 258)



AIR-CHANGING DUCTS in the opener room deliver 80,000 cu. ft. of air per min. from four units. Dust and fly are removed from the opening machines and deposited in the bags seen in the background below the air duct.



IN THE PICKER ROOM, three air-changing units deliver 60,000 cfm. of air. Atomizers on each side of the center duct (top foreground) humidify the picker room. A waste-reclamation room (not shown) receives 20,000 cfm. of air.

Bemis Bag Co. Installs Complete AIR CONDITIONING

AUTOMATIC AIR CHANGERS

	Units	C.f.m.
Opener room	4	80,000
Waste reclamation	1	20,000
Picker room	3	60,000
Slasher room	3	60,000
Tying-in room	1	20,000
Cloth room	4	80,000

CENTRAL-STATION SYSTEM

	Units	C.f.m.
Dyehouse	2	40,000
Card room	2	307,000
Spinning room	3	450,000
Twister room	1	74,000
Spooling, warping	1	27,000
Weaving	1	196,000

► *Over 50 tons (1,415,000 cu. ft.) of air per min. is circulated in the mill departments of Bemis.*

► *Humidifiers, air changing, and air conditioning are used where each is needed.*

By ***S. P. AGNEW,*** *Production and Quality Control Manager, Bemis Bro. Bag Co.*

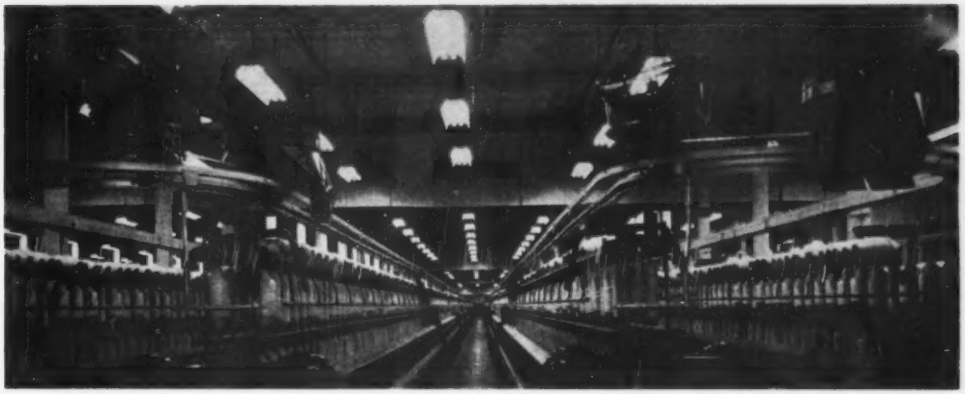
EMPLOYEE COMFORT and machine efficiency have benefited by the air-changing and air-conditioning systems installed at Bemis Bro. Bag Co., Talladega, Ala.

This mill—with 40,288 spinning spindles, 2,636 twister spindles, 770 looms, and 300 cards—controls air in every mill department. Where humidity is essential, a central-station washed-air conditioning system is used. Where humidity is not a problem, an air-changing system is used. Parks-Cramer equipment is used throughout.

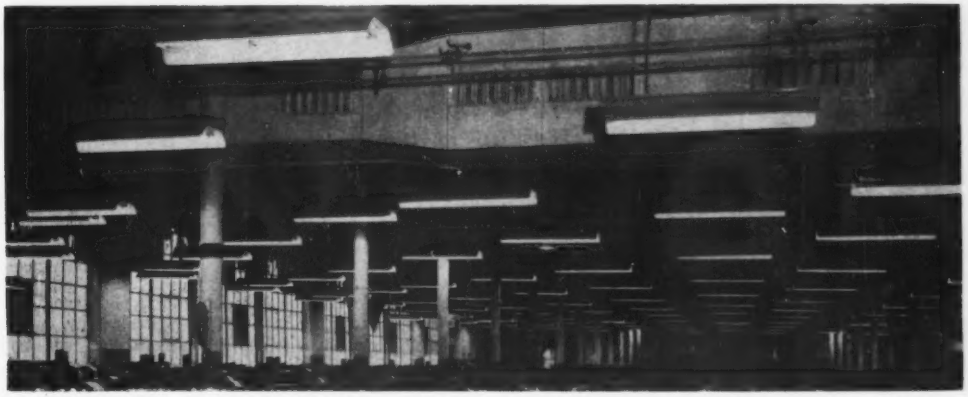
Housed in a modern brick, concrete, and glass building, the mill produces osnaburgs, sheeting, twines, and heavy-duty ("Bemis A Seamless") cotton bags. To help in economical production of these products and to provide desirable working conditions for its people, Bemis has gone "all out" for good lighting, clean rooms, well-kept floors, mechanical handling, and modern machinery and equipment.

The mill and village that houses 250 families occupy about one-third of a 2,000-acre tract just outside the city limits of Talladega. Paved streets, well-kept yards and parkways, stores, schools, churches, and recreational facilities mark the Bemis community as one of the outstanding villages in the country.

CARD-ROOM AIR is conditioned by the central-station air-washer system that provides humidity, ventilation, and heat when needed. The air washers are equipped with self-cleaning tank screens to eliminate hand-cleaning of vertical screens. Two units of the system deliver 307,000 cfm. of air to the card room, distributing it over cards, drawing, and roving frames.



IN THE SPINNING ROOM of some 40,000 spindles, three units of the central-station air-washer system provides 450,000 cfm. of air. The conditioning system has automatic controls for fan speeds to reduce power use during periods of decreased air-conditioning demands. These controls save 70 to 90% of power input in these periods of reduced demand.



IN THE WEAVE ROOM, one unit delivers 196,000 cfm. of air. Over all, Bemis can circulate 1,415,000 cfm. of conditioned and unconditioned air. At 14 cu. ft. per lb., its capacity is about 50 tons per min. or 3,000 tons per hour. Since it processes about 2½ tons of cotton per hour, its capacity is more than 1,000 tons of air per ton of cotton processed.

FINAL ADJUSTMENTS to the mule drive are being made by the fixer under the supervision of the overseer. TW's Ernest Helliwell looks on.

The drive has a fluid coupling between the motor and transmission to insure smooth starting and running. Speed variations are made by changing the amount of fluid (oil) in the coupling. The motor is started and stopped by a push button.

Mule-Spun Carpet Yarn

Type of machine	Mule
Machine builder	J & B
Model (year)	1950
No. of spindles	320
Horsepower	15
Gauge of mule	3⅛ in.
Diameter of full bobbin	3 in.
Length of traverse	13⅛ in.
Yarn weight per bobbin	9 oz.
Length of draw	75 in.
Draws per minute	5.8 to 6
Run of yarn	1.16
Speed of spindles (rpm.)	3,300
Speed of back shaft (rpm.)	350
Twists per inch	4
Lb. per spindle hour (100%)	0.40
Lb. per spindle hour (actual)	0.35
Percent efficiency	88
Production per mule per hour	112 lb.
Allowance per shift for cleaning, oiling, etc.	25 min.

New Fluid-Drive MULES
Reduce Spinning Costs

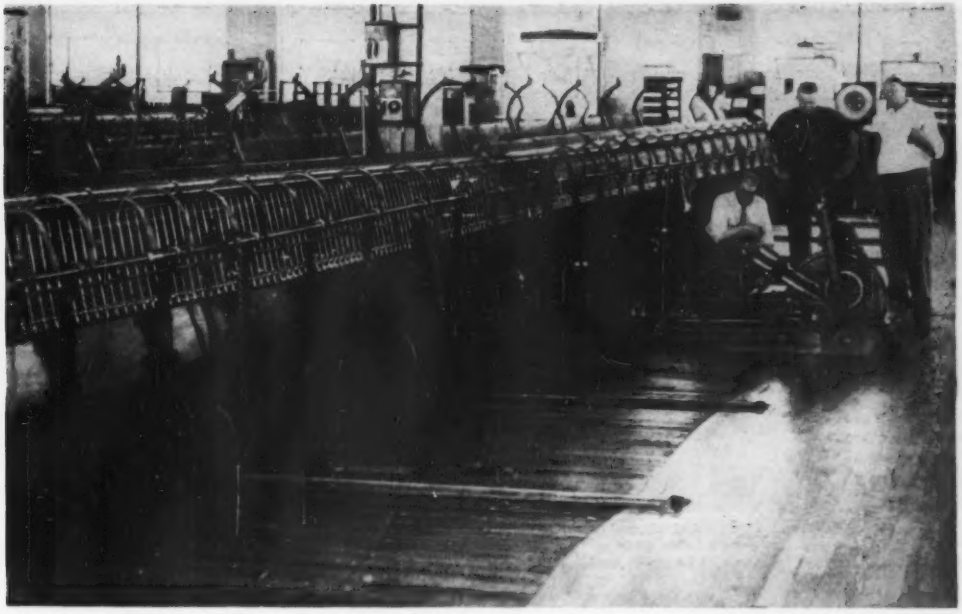
HIGHLIGHTS: *Larger packages on mules increase production and reduce down-time and labor for doffing—Fluid drive eliminates overhead shafting, pulleys, and belts and gives smooth starting and running.*

By E. H. HELLIWELL, *New England Editor, TEXTILE WORLD*

INCREASED PRODUCTION per spindle, lower labor costs per pound, and improved quality of the yarn spun are three important results obtained with the new Johnson & Bassett Hydroline-drive mules installed in a prominent New England carpet mill.

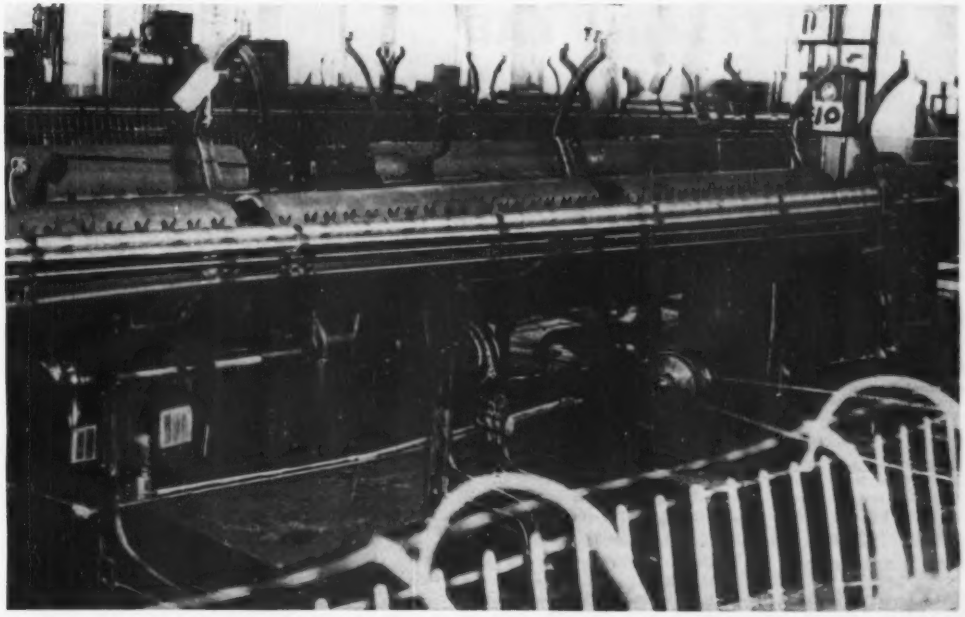
The giant bobbins spun on the mules have a 13¼-in. traverse, a 3-in. full-diameter bobbin, and a net weight of 9 oz. of spun yarn per bobbin. This large bobbin reduces the labor and down-time for doffing and also cuts the labor required on subsequent processes. The increased yardage per bobbin has proved a big advantage on the coarse yarns used in carpet manufacture.

An examination of bobbins containing the finished yarn shows well-built packages of round, lofty, uniform yarn of high elasticity. Tests show high yarn strength and uniformity of strength and twist.

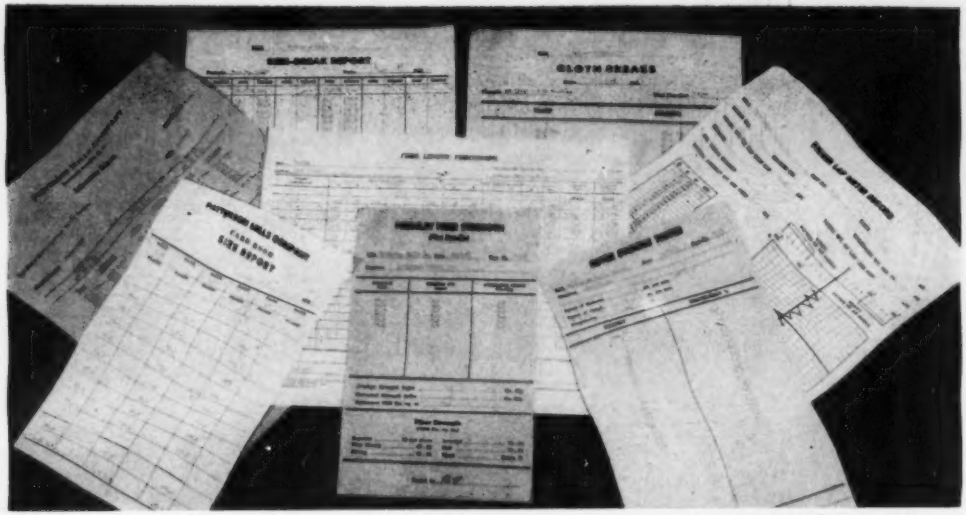


QUADRANT MOTION is inspected by the author after final adjustments have been made by the fixer.

The builder wheels and idlers of the new mules are equipped with ball bearings and the carriage wheels with roller bearings. Roller-beam boxes have sealed ball bearings to reduce the power required to drive the rolls and to keep oil or grease from getting on the yarn.



THE SPINNING MULE, with the fluid drive shown in place on the head bed plate, is ready for stock. Solid draft scrolls eliminate scroll wings and save the down-time required for replacing the wings. The scroll position is positive, and coarse and fine yards can be spun with one set of scrolls. Ropes last longer with these solid scrolls than with scroll wings.



THESE QUALITY-CONTROL REPORT FORMS, used at the Roanoke Rapids, N. C., plants of Simmons Co., were drawn up by the plant managers, overseers, and lab personnel for use in recording information needed in the mills. Lab personnel and supervisors "talk it over" to make certain that everyone concerned understands how to interpret the test results.

How To Set Up A Small TESTING LAB

► *Follow the nine steps outlined by the author, and you can set up a small physical testing lab that will get results.*

► *This program is based on Mr. Williams's experience in setting up the lab that serves the Simmons Co.'s six mills at Roanoke Rapids, N. C.*

By FRANK C. WILLIAMS, JR.
Assistant Superintendent, Patterson Mills Co.

THE MANAGEMENT OF OUR GROUP of mills decided to set up a physical-testing laboratory to make routine and special tests for the individual plant managers, who would be responsible for the quality of their fabrics. The lab was set up with modern equipment, and trained personnel was obtained. We make whatever tests the plant managers specify.

The lab has been able to help the plant managers in many ways. For example, we have established a definite correlation between fiber strength, yarn strength, and fabric strength for one of the plants. We have found that a Pressley strength index of 6.8 or higher will keep the cloth break at this mill above the minimum specified if the yarn count × the strength equals 2,050 or higher and if the yarn counts are kept within range.

We started from scratch to set up our lab. Here's a step-by-step outline of the principles you might follow if you're going to set up a lab to do your testing.

1. Carefully Select the Lab Site

Select a room that is well insulated, free from vibration, and large enough for future expansion. It has to be insulated so that you can maintain standard atmospheric conditions. Excessive vibration can cause delicate instruments continuously to get out of calibration. If your room is large enough to take care of future needs, you can make permanent installations and won't have to worry about moving everything to larger quarters in a year or two.

2. Get Air-Conditioning Equipment

Buy an air-conditioning unit of sufficient capacity to take care of your present as well as anticipated future needs.

3. Get Testing Equipment You Need

Determine what tests are most important, and buy

TESTS SHOULD MEAN SOMETHING, Bynum Neal, the lab supervisor, believes. Here he is making a fiber-strength test on a sample taken from the control delivery on the finisher draw frames. His results will be used to control subsequent processing of this mix.

A STANDARD ROUTINE for tests should be worked out, with sufficient time allowed for special tests. Time studies showed that a sliver-evenness test on the Uster tester takes 6 min. Time allocations help determine what tests each mill can have made by the lab.

FABRIC-STRENGTH TESTS were made by the grab method, shown here, until the mill found that the ball-bursting method more closely resembled actual wear of bed springs on ticking. As a result, the mill has been able to balance better the strength of warp and filling to give a stronger ticking.

STANDARD ATMOSPHERIC CONDITIONS are needed to give accurate test results. A Parks-Cramer air-conditioning unit is used to maintain standard testing conditions of 65% r.h. and 70° F. The testing room is well insulated and is in a part of the plant that is free from vibration.

equipment and instruments to make these particular tests. For example, one of our mills makes mattress ticking that is sold on high breaking-strength requirements. For this mill, we needed to get equipment to make strength tests for fiber, yarn, and cloth. For another of our mills, which weaves table-cloth and napkin fabrics, we got equipment to check yarn evenness, nep counts, and yarn and fabric appearance.

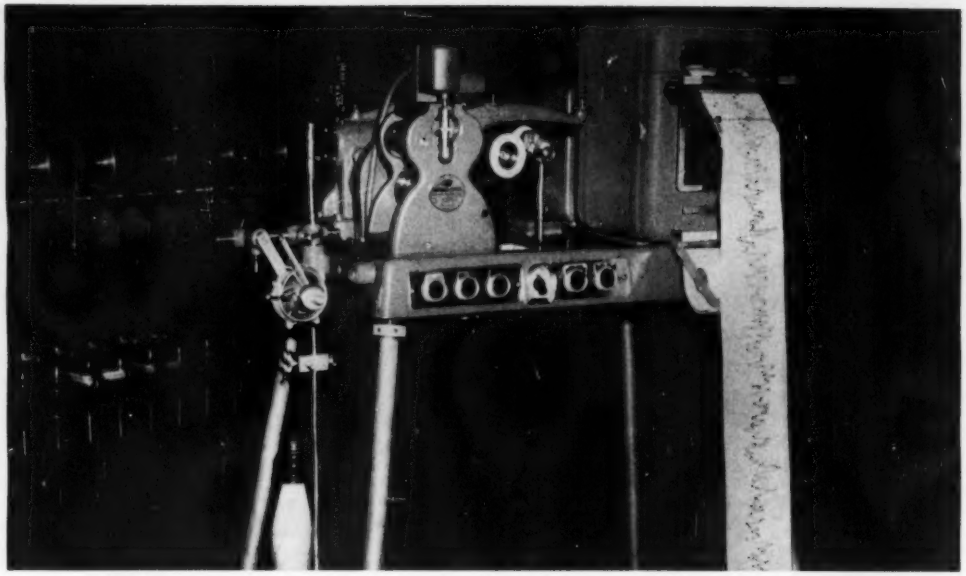
4. Keep Instruments Calibrated Correctly

Delicate instruments get out of balance occasionally. You should check the calibration of all of them when you install the instruments and at periodic intervals after they are in use. Manufacturers of the various instruments can tell you how to check the calibration. Check samples of known qualities, or use gauges available in various types for quick checks.

5. Make Reports Clear

Draw up reports that are clear and precise. Put in them only pertinent information, but be sure that you give all the information that the supervisors need. Be sure that the supervisors who get your reports understand how to interpret them. That goes for plant managers,

(Continued on page 159)



IN THE SPINNING ROOM of this mill, the tester is used right next to the frame. Results are not affected by humidity.

How Mills Are Using the Pacific EVENNESS TESTER

HIGHLIGHTS: Unevenness reduced from 27% to 12% in one mill—Results are not affected by moisture content or oil in the stock—Tester can pick up a ⅛-in. change in roll setting—Reproducibility of results is high—Mills use the tester out next to the machines.

By

JAMES H. KENNEDY, JR.
Professor in Charge

and

MICHAEL J. KOROSKYS
Assistant Professor

Woolen & Worsted Yarn Dept., Lowell Textile Institute

HERE'S THE COMPOSITE STORY of how several mills are using the Pacific evenness tester. Right now, mills are using the new tester for trouble-shooting and in quality control. Those that are using the tester plan to project results so that some day the textile industry will buy and sell on engineering specifications. For example, when you buy a 3-oz. top it will be sold at 15% unevenness—a value that you can check and a value that means something.

The Pacific tester can be used with any fiber. The story here is of its mill uses in wool and wool blends, but the results are applicable in any operation that handles fiber in continuous form.

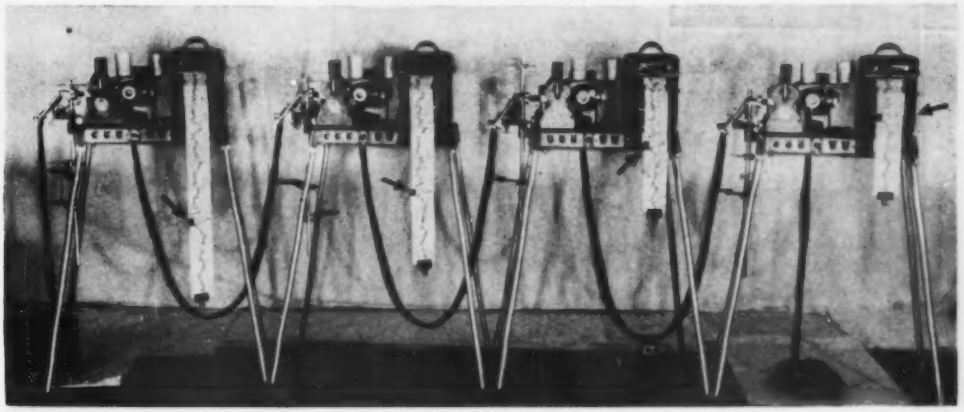
What does the tester measure? It produces a graph that shows the variation in any continuous, fibrous material. From this graph mill men can readily determine these five things:

1. Weight of the material—ounce weight of sliver, dram weight of roving, count of yarn, etc.
2. The average weight for any measured length—as a 20-yd. length of sliver, roving, or yarn. The entire length of the package can be averaged, too.
3. The average percentage of variation for any length, based on the weight of the raw stock, as reflected by its cross-sectional thickness. The tester automatically discounts the oil and moisture content of the material. The indicated variations are for material only.
4. Percentage of maximum deviation from the average mean weight of the material being tested.
5. Average amount that the material is heavier or lighter than the desired weight.

These five facts can be determined in percentages by actual calculation from the graph, or they may be determined roughly from visual inspection of the graph.

For more details on the Evenness Tester, follow the arrow . . . . . ➡

THE PACIFIC EVENNESS TESTER (*Continued*)



REPRODUCIBILITY of results is high, as you can see from these four charts made in succession on the same silver. The same "pip" is visible on all four charts.

Here's how the tester works . . .

The material being tested is fed through a guide, with tension being properly controlled, into the nip of a pair of tongue-and-groove rolls. The groove is square; so the material is compressed into a rectangular shape.

The groove in the rolls consists of three fixed sides—a base and two perpendicular walls. The fourth side is the bottom of the tongue of the top roll. Both rolls rotate about their axis, but the top roll can also move in a vertical plane to accommodate the thickness of the material.

Since the fibers are completely confined on the sides and bottom of the groove, any variation in the thickness of the material will cause the top roll to go up or down as the stock passes through the nip. This movement is converted into an electrical impulse by a special General Electric magnetic-displacement gauge. This impulse in turn is measured by a micrometer, is magnified, and is then inked on graph paper by a photoelectric recorder.

A suitable combination of creel and tensioning devices is provided to accommodate all types of packages.

. . . with these basic parts:

CREEL—an all-purpose creel consists of pegs and skewers to accommodate all types of packages. Various guides are provided for side draw, over the top, etc.

TENSIONING—for sliver and roving samples, a ladder-type tensioning device permits suitable tension for all weights of ends. For yarn, a Kidde tension device permits tension without danger of excess drag in case of slubs, kinks, etc.

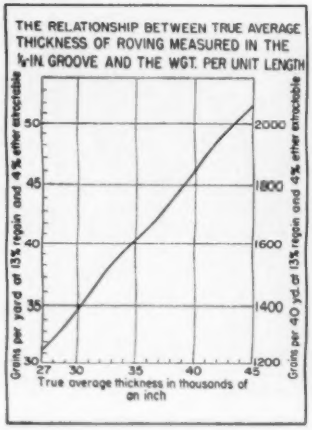
MEASURING HEAD—there are three heads for yarn, roving, sliver, etc. The mated tongue-and-groove rolls have three grooves per head. Each groove will accommodate a specified range of material weights. There must be sufficient bulk of material in the groove at all times during a test to at least cover the bottom of the groove but not so much as to overcrowd. The range of grooves will handle all ends from 4.0-oz. top to 100s worsted yarn and their equivalents in cottons and synthetics.

Since these hardened, ground, steel rolls are mated and almost perfectly true in concentricity, the top roll will not have any vertical movement as long as the stock remains of uniform weight (cross-sectional area). Any variation will cause an upward or downward movement of the rolls that is transmitted to the gauge head.

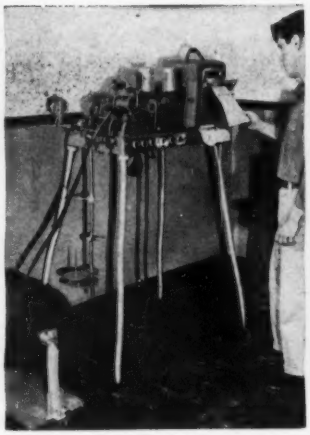
GENERAL ELECTRIC GAUGE-HEAD—this small electrical unit is mounted above the rolls and is connected to them by a rod containing a micrometer. This micrometer serves as a variable-length linkage. The electrical unit consists of two coils, one mounted above the other, with an air gap between. Strategically located in this air gap is a metal plate. This plate moves up or down, corresponding to the movement of the top roll, since it is connected to it by the rod and micrometer linkage. When this plate is centered between the coils, an equal amount of current will flow through them. The slightest movement of the top roll will cause the plate to move, change the balanced electronic conditions, and cause movement of the pen arm. This gauge head is an extremely sensitive unit, especially modified for this tester. It is protected against overrange if too heavy a sliver is run in without first setting the micrometer linkage.

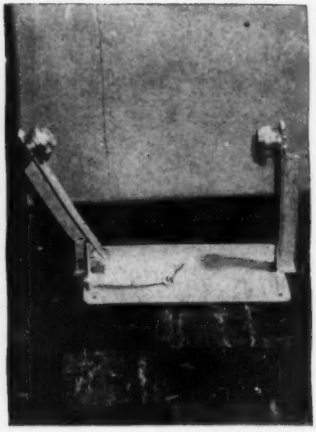
RECORDER UNIT—this is a General Electric recorder especially modified for this tester to give immediate response, with damping to prevent overtravel of the pen arm under rapid fluctuations. It works on a balanced electronic principle.

There are two chart speeds: 1) 1 yd. per min. for analyzing defects and for quality control work, and 2) 1 yd. per hr. to show variations during the running of an entire package, such as finding the count variations throughout the length of a bobbin of yarn.



AFTER STANDARDS ARE SET, mills make charts like this one to determine weights and yarn counts from thickness readings.





AT AMES WORSTED CO., LOWELL, MASS., the tester is set up in the lab. Pin-drafter stock is easily held for unrolling in the stand (right) developed for use in conjunction with the Pacific tester.

How mills set standards

The most important phase of tester operation is the first few weeks when standards are set. Each mill must determine its own standards. It would be useless for us to give you a complete set of standards because such figures wouldn't help you at all.

Generally, however, here's how mills go about setting their standards.

1. Test a series of random samples from each shift. Most mills used ASTM procedures with the 95% limits of accuracy.

Select several tops, rovings, yarns, etc., that you consider good for your plant. Run tests on these and obtain figures of percentage unevenness. You can unravel some yarn from commercially acceptable cloth and test it to obtain an evenness figure for yarn.

You can run tests on all work now in process. Carry on exhaustive tests in which you vary the number of operations, drafts, doublings, ratch, blends, etc., until you arrive at a combination that is most successful. Mills that have done this checking say that such time and effort was well worth the money.

2. From this mass of data determine what variation you can expect between machines, between shifts, and between days or lots on the same work.

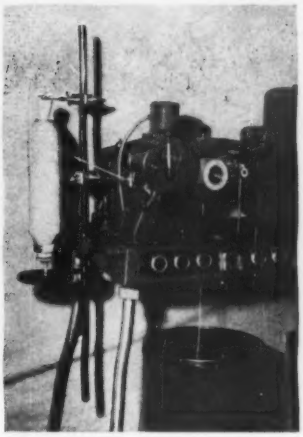
3. Then set your standards for weight and evenness.

The danger in setting up standards is to go at it too fast and come up with figures that will be impractical commercially, or too broad to do any good.

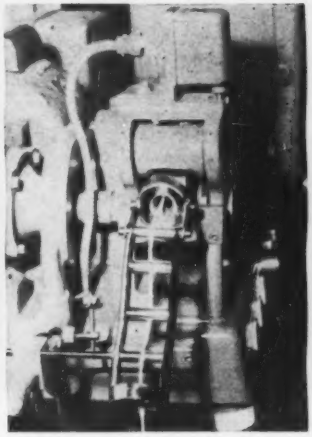
Probably the best way to go at this job of setting standards is to put some competent person in charge of the tester. Let him test everything in sight until the mass of data he accumulates begins to take shape and he definitely shows where you have been. Then, as he finds he quite thoroughly knows what the mill is doing, he can begin to lead the mill by expecting it to come up to the higher standards occasionally reached in the past. With some research into processing, and with quality control along with the tester, you can gradually raise your standards until you arrive at an optimum.

Why Mills Like the Pacific Tester

1. You can get weights as well as evenness without the use of standard atmospheric conditions, i.e., you can run yarn through and come up with its unevenness and the count of the yarn without first conditioning it.
2. Tester may be set up in the mill as well as in the laboratory.
3. Electronic circuits replace mechanical linkages as the transmitting medium. This means:
   a. No draft during running of tests. Variations of the tube characteristics will not affect the readings since we have an optical-electrical circuit.
   b. No appreciable lag.
   c. High-torque pen movement without sacrifice of sensitivity.
   d. Pen movement is quite linear over the range of the recording movement on the chart paper.
   e. No permanent set due to over-range.
   f. High fidelity—a machine down South will produce a chart that is comparable to one made up North for the same piece of yarn.
4. High magnification. A switch in the circuit permits magnification up to 1,000 times for most accurate readability of all charts.
5. Integrating pens permit quality control on sight. After properly setting the micrometers, one glance at the chart will show whether or not the material is up to the expected standard.



THIS CREELING SETUP is used for cottons and synthetics processed on the cotton system, where little tension is desired.



LADDER-TYPE TENSIONING DEVICE is used for sliver and roving. Method of threading, however, varies for the two.

THICKNESS MICROMETER (right) and LIMITS MICROMETER (left) are set for each type of stock.

Operation and location of the tester

Any person who has the ability to read micrometers can operate the tester and quickly become familiar with the entire scope of its use. The tester operator most often comes under the supervision of some member of the plant's staff who has sufficient authority to instigate a quality-control program and set up its procedures. Depending upon the size of the plant, this person may be a member of the research staff, the plant chemist, a quality-control man, the superintendent, or the assistant superintendent.

Once a member of the plant's staff has become fairly expert in the use of the tester, almost any other member of the plant's personnel can be trained to handle the routine work on the tester. For analytical research work, a person with an engineering background plus a thorough understanding of manufacturing can better interpret the results.

The tester can be located in any mill department or in the laboratory. It is not affected by moisture, dust, or vibration. About the only limitation to location would be not to put it next to a battery of looms.

Some mills are using testers in each department — and the department head runs the tests. Other mills, especially smaller ones, have found it more convenient to put the tester in the mill lab.

How you can use the tester

1. Research
   a. To test the present system of operations.
   b. To develop different sequences of operations: short-cut methods, pin-drafter lay-outs, American system, and combinations.
   c. To develop the best methods of handling new fibers.
2. Quality Control
   a. To arrive at standards of evenness needed at each operation in order to assure getting a salable top, yarn, or cloth.
   b. To test daily the production of an optimum number of machines in each department (combing, drawing, spinning, etc.) to make sure of getting the evenness and weight desired.
   c. To locate the causes of bad work. With some experience, the operator of the tester can quickly recognize from the characteristics of the chart the reason why a process is producing bad work, and the machine can be stopped and adjusted before a lot of the bad work is made. (I.e., distance between peaks and/or valleys on chart when they repeat themselves regularly will indicate a bad apron, non-concentric roller, broken gear, worn shaft, bad faller, etc.) A repeat that is slightly out of phase may indicate a previous operation. By considering drafts, the operator of the tester, with a little practice, can determine the actual operation at which the fault originated.

Case studies of mill use

Mill Case No. 1—Correlating Staple Length with Machine Setting.

"We're using our tester for trouble-shooting now, but we're going to get it into our quality-control setup in a few weeks. On our Whitin high-speed spinning frames we can set the rolls so accurately, by checking evenness with our Pacific tester, that we can detect a change in our yarn if we miss the proper roll setting by as little as $\frac{1}{4}$ in. We've used the tester on our

COMPLETE SCOURABILITY and the superior adhesiveness of Sunotex Machine Oil ended a jinx for this felt maker. Sunotex held spotting to the absolute minimum and replaced an "adhesive" oil which had to be applied three times as often. Sunotex Machine Oil is now used—with never a trace of harmful staining—on every loom in the mill, including this 500-incher.

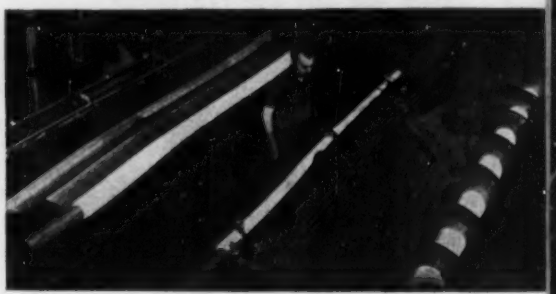
LUBRICATION JINX IN 3 MILLS ENDED BY SUNOTEX MACHINE OIL

One mill had been plagued with excessive oil costs, another with numerous spots that would not scour out, a third with rusting. By switching to Sunotex Machine Oil, a new general-purpose textile oil for bearings, cams, slides and gears, each one of these mills ended its troubles.

Sunotex Machine Oil is an ideal lubricant for almost all friction points of textile equipment. It is exceptionally adhesive, scours out completely from all fabrics, assures absolute rust protection, withstands extreme pressures, simplifies inventories, makes possible longer undyed fabric storage.

To find out how many of your machines this oil can protect, write to Department TW-7 for lubrication data sheets and samples.

NO RUST forms to interfere with the delicately adjusted mechanisms of this hosiery machine now that Sunotex lubricates it. The mill's production of perfect nylons, greatly reduced by the oils formerly used, has returned to rated capacity.

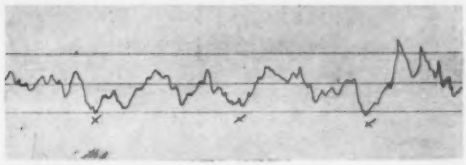


50% LESS OIL is needed to lubricate this knitting machine because Sunotex adheres so much better. Unlike the former product, this Sun oil does not gum up the system. Costly week-end clean-ups have been eliminated.

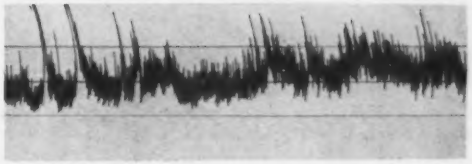
SUN INDUSTRIAL PRODUCTS

SUN OIL COMPANY, PHILADELPHIA 3, PA. • SUN OIL COMPANY, LTD., TORONTO AND MONTREAL

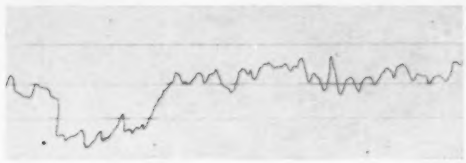
SUNOCO



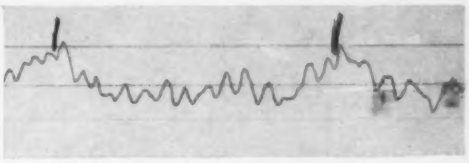
SPACING OF THE REGULAR DIPS in the chart indicates front-roll, bottom-apron trouble on the machine that processed this top. Upon checking, the operator of the tester found that the apron had a spongy spot in it.



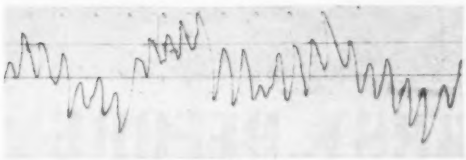
THIS BOBBIN OF YARN was run from beginning to end to check on count variations in the bobbin. The slow chart speed gives this type of "envelope curve," and in this case indicates some extreme variations in count, the result of some poor processing in drawing operations.



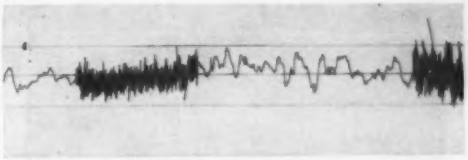
THIS TOP RAN WITH AN END OUT for the distance indicated before it was spotted and pieced up.



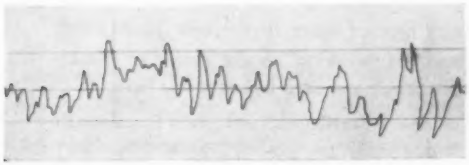
SPACING OF THE RECURRING "PIPS" on this chart indicates that the balling head is stretching the top at the ends of the traverse.



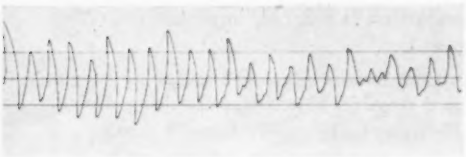
REGULARITY AND SPACING of the "pips" indicates a faulty front roll on the machine that processed this mixed-color wool top.



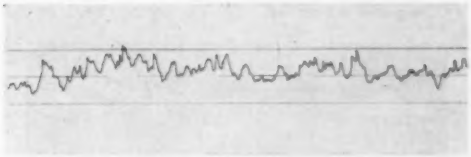
VARIATIONS IN YARN AND COUNT uniformity show on this chart. On the left we have even yarn, but light in weight. The next section, run at slow chart speed to show many yards tested on a small chart space, is good for evenness and fair for count variation. In the next section we find the evenness good, but count running heavy. In the last section we have poor evenness with a fair count variation.



POOR TENSION on the gilling delivery rolls is indicated on this chart.



DRAWING ROLL, off by 0.015 in. caused this bad work.



NORMAL SLIVER looks like this—no extremes in variation.

regular wool yarns and also on wool-Vicara and wool-dynel blends from top through to yarn."

Mill Case No. 2–Locating Sources of Trouble.

"Our lab tests at least part of our production every day. When the chart shows a periodic unevenness, the lab tells the production people about it. Then the boys who know those machines set to work. Sometimes a peak occurs every 15 in. We start looking at the rolls that have 15-in circumferences. Sometimes a roll is off center. Or in some cases there's a worn spot on the roll covering. This tester tells us where to look."

"One good thing about the Pacific tester is that it is so accurate that we can trace back, by using the known drafts, to locate defects caused one or two operations before."

Mill Case No. 3–Checking Purchased Sliver.

"Under the old method, we used to weigh and dry our incoming sliver. Now we just run it through the Pacific tester to check both weight and evenness. This way we have a permanent record in addition to getting the desired information quickly and accurately.

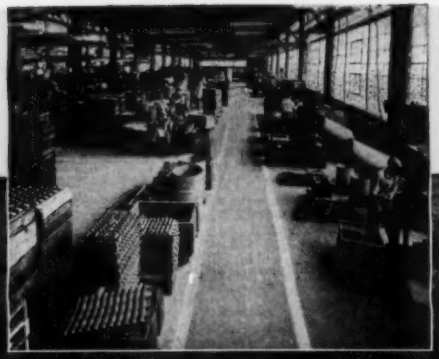
"If what we buy doesn't come up to our standards, our supplier hears about it. He's getting a tester now so he can know what we're talking about when we say 15% variation. We'd like to sell our top and yarn on standard specifications too."

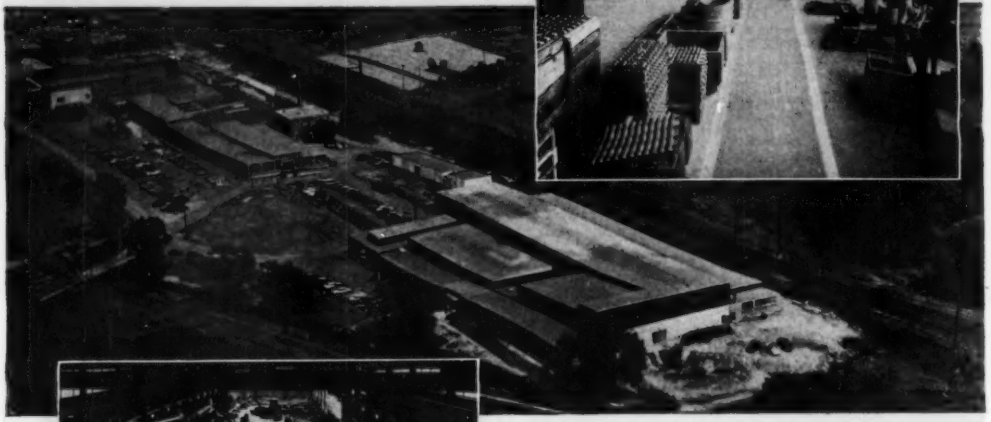
Mill Case No. 4–Quality Control.

"We've set up standards of weight

(*Continued* on page 232)

New Butterworth Plant





Upper right, new link room for manufacture of chains used in Butterworth Tenters—straight automatic, vibratory, mercerizing, return.

Above, main erection floor in new plant. Boxing and crating operations in foreground.

Sheet metal shop for fabrication of housing and parts for Butterworth Machines.

BUSY BEFORE IT WAS BUILT

Every foot of space in the new Butterworth plant was "working" in the minds of Butterworth engineers even before it was built.

The new $300,000 addition gives Butterworth a completely integrated textile machinery *manufacturing operation.* The time element in production is reduced, improved deliveries assured.

Talk to Butterworth *now* about a new high-speed range for bleaching, mercerizing, dyeing, printing or finishing. We have the capacity . . . plus an experience unequalled in the textile industry. When you buy "Butterworth" you buy greater yardage, better finishes, higher speeds, lower production costs.

H. W. BUTTERWORTH & SONS CO.
Bethayres, Pa.—40 Fountain Street, Providence, R. I.
1211 Johnston Building, Charlotte, N. C.
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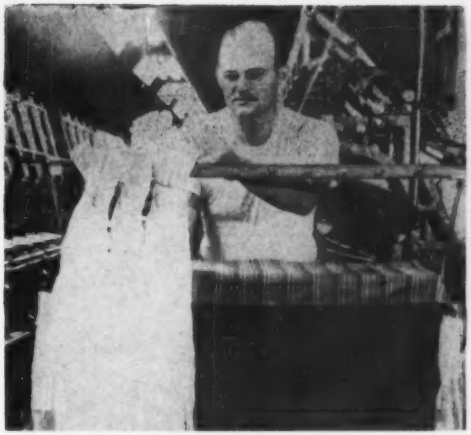
BUTTERWORTH



KNITTERS' CABINETS have racks that hold wooden pieces to hang the stockings on. Each wooden piece holds 20 doz. stockings. The pick-up girl picks up the dozens when the rack is full and puts them on her truck. She leaves an empty wooden piece for the knitter. The truck is made of aluminum and has brass bolts that will not rust.

A COMPLETE CYCLE of the presetting cabinet consists of preheating with dry heat, humidifying with dry and wet heat, drying with dry heat that is being exhausted, and cooling with only the exhauster in operation. The cabinet shown presets 200 doz. pairs every 55 min. Cabinets are available that will handle one, two, or three trucks.

You Can Up Seaming Efficiency If You PRESET NYLON STOCKINGS

► *Stockings that are preset have a firmer stitch, and you get fewer picks, pulls, and fish-eyes.*

► *Some seamers have increased their production 3 doz. per day since their mills started using a presetting cabinet.*

By H. B. LeFEAUX
Consulting Editor, TEXTILE WORLD; Superintendent, Vanette Hosiery Mills

DEVELOPMENT OF THE presetting cabinet for the hosiery industry is, in my opinion, the number-one improvement in full-fashioned hosiery manufacturing during the last two years. Here's why I say that.

Presetting of the fabric makes the stitch firmer and tends to cut down on losses from picks, pulls, fish-eyes, etc. As a result, you can get better percentages in subsequent operations. Presetting has helped some of our seamers increase their production 3 doz. per day.

The seamer guide will glide much easier through the curled selvage because of the firmness of the stitch and the shrinkage that occurs in the presetting operation. The heels are easier to match in seaming; and this factor helps improve percentages in seaming, final pairing, and inspection.

Consider These Installation Tips

1. Place the presetting cabinet as close as possible to the seaming and inspection departments. I eliminate the looping department because most mills probably will be knitting the loopless toe soon.

2. Plan the location so that you can have water drainage, steam exhaust outside the building, and a high-pressure intake steam line. Water accumulates from condensation and must be drained off. Steam can be exhausted out the wall or roof of your building. To get a uniform supply of steam, you should run a high pressure from the boiler or nearest steam line and reduce it to 15 psi. into the cabinet.

3. You need an air compressor to supply 17-psi. air pressure to operate the instrument. A ¾-in. air hose will do the job.

4. You must run a ¾- or 1-in. water line to the cabinet to furnish the wet heat. The water supply is automatically controlled by the float valve.

5. Work out a flow of work to suit your own plant. One moderate-size plant uses two trucks to pick up and deliver work for a single-truck cabinet. You may need more trucks or a larger cabinet.

Here's A Typical Set-Up

Two aluminum trucks were made in the plant, brass bolts being used to prevent rusting. The pick-up girl pushes one of the trucks down the main aisle of the knitting room. She

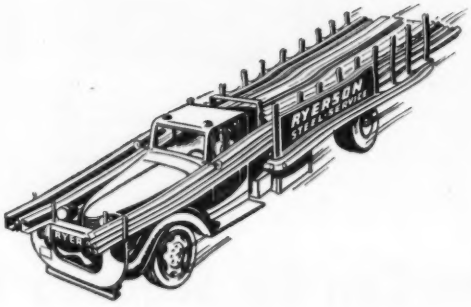
(Continued on page 254)

RYERSON

Ryerson Steel Service awaits your call at thirteen great plants, strategically placed across the nation.

STEEL

Every kind of steel is on hand for quick delivery. Though stocks are currently unbalanced, most requirements are usually available.



SERVICE

Ryerson representatives are ready to assist you on any problem involving the purchase, fabrication or application of steel.

PRINCIPAL PRODUCTS

CARBON STEEL BARS—Hot rolled and cold finished
STRUCTURALS—Channels, angles, beams, etc.
PLATES—Many types including Inland 4-Way Safety Plate
SHEETS—Hot and cold rolled, many types and coatings
TUBING—Seamless and welded, mechanical and boiler tubes
ALLOYS—Hot rolled, cold finished, heat treated. Also tool steel
STAINLESS—Allegheny bars, plates, sheets, tubes, etc.
BABBITT—Five types, also Ryertex plastic bearings
MACHINERY & TOOLS—For metal fabrication

JOSEPH T. RYERSON & SON, INC. PLANTS AT: NEW YORK • BOSTON • PHILADELPHIA • CINCINNATI • CLEVELAND
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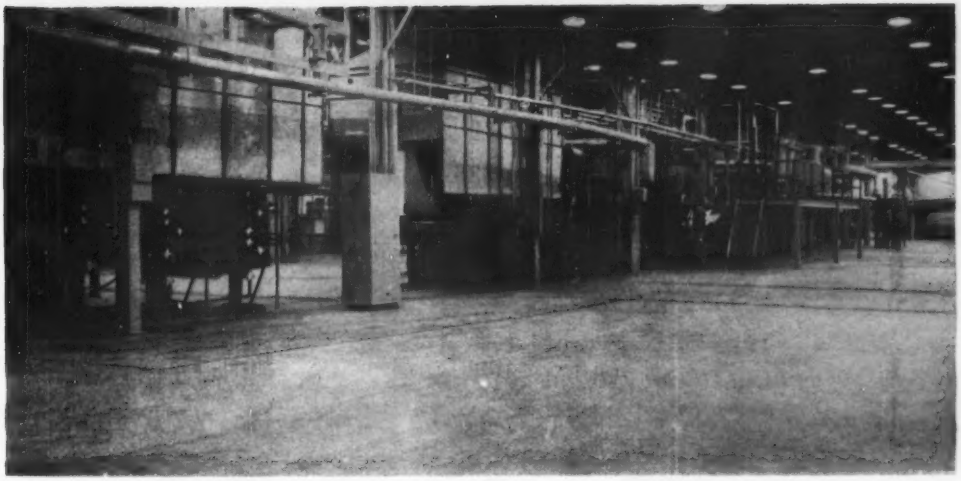


GOOD RESULTS obtained with this cement floor in Grace Bleachery prompted use of the same flooring in a new warehouse addition.

Hard-Topped CEMENT FLOORS
Please Springs Engineers

▶Compacted, granolithic-topped cement floors are being installed in new weave rooms and warehouse areas of Springs Cotton Mills as a result of previous good experience with the floors. Additional head room, no wear, and low maintenance are advantages found.

FAVORABLE EXPERIENCE with granolithic-topped cement floors in weave rooms and wet-processing areas has prompted Springs Cotton Mills to go "all out" in installing these floors in new or improved areas. A total of 790,000 sq. ft. have now been installed or are being installed in three mills, as follows:

Lancaster Mill (weave room)	90,000 sq. ft.
Grace Bleachery	500,000 sq. ft.
Grace Bleachery (new warehouse)	120,000 sq. ft.
Fort Mill (weave room)	80,000 sq. ft.

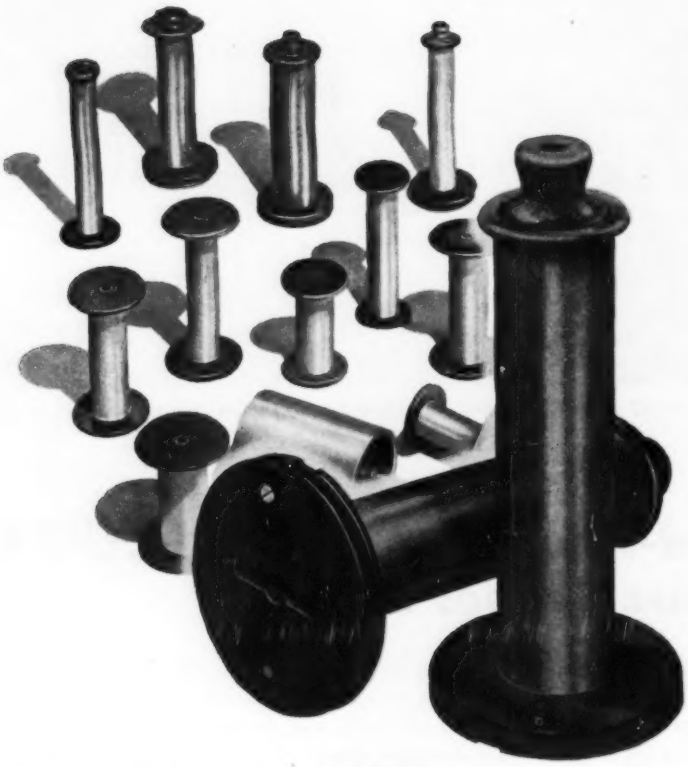
The first weave-room installation at Springs was at the Lancaster mill. In considering the use of hard-topped cement floors here, Springs engineers required that the floors be "easy on the feet" of employees. The engineers also wanted to maintain enough headroom for overhead facilities, as lighting, the sprinkler system, air-conditioning system, and loom wiring.

The Springs company corps of engineers, working with Robert & Co., engineering and architectural firm of Atlanta, Ga., decided that only a high-quality topping, or finish, would justify any use of concrete. The engineers decided on a special flooring finish, developed and made by Kalman Floor Co. of New York, N. Y.

The Lancaster mill, located over a running stream, presents extremely bad water conditions for flooring, a fact that seemed to indicate that cement flooring would expose employees to permanent dampness. However, a special floor construction was employed to make the floor dampproof, although the floor was 3 ft. below water level. First, a 4-in. terra cotta pipe was laid in stone as a base to expedite sub-floor drain-off, on the rock strata foundation, to a sump for pumping back to the stream. Then 4-in. of concrete slab was laid over this rock strata. Before adding

(Continued on page 288)

***GRANOLITHIC TOPPING** (left) provides more compact surface than conventional monolithic topping (right), and is about ¼ in. thinner. Actual thickness of granolithic topping is ¾ in.*



Want a real "buy" in synthetic yarn bobbins?

If you are looking only for a bargain price this advertisement won't interest you at all.

But if you want an honest return for the money you invest in synthetic yarn bobbins, we may have the answer.

Featured in the illustration above is a down-twister bobbin. The surrounding bobbins and pirns are for a variety of other purposes. All of them have one thing in common—all are made from Synthane laminated plastics.

Synthane is non-metallic, light in weight, hard, dense, almost indestructible—even with rough handling. Synthane is moisture resistant and dimensionally stable, too. More important to you, it has a super-smooth surface that is extra-gentle to your valuable yarns.

We make these bobbins and pirns to hair's breadth accuracy by precision methods. Then each bobbin is checked carefully for dynamic balance, resulting in lower spindle maintenance and reduced power waste.

These are the reasons why textile men willingly pay more for Synthane bobbins and pirns.

Incidentally, there are many more Synthane products for textile applications—from non-snagging hosiery examining forms to corrosion-resisting pipe for nylon sizing machines. We have a folder picturing and telling about these other Synthane textile uses. Send for it. Textile Division, Synthane Corporation, 50 River Road, Oaks, Pennsylvania.

PLASTICS WHERE PLASTICS BELONG

SYNTHANE

Manufacturers of laminated plastics and parts for the textile industry

Card-Room LUBRICATION Scheduled for Best Results

HIGHLIGHTS: *Simple schedules aid in securing the correct lubrication of all machine parts—The type of lubricant used and the frequency of application for each bearing should be specified.*

By E. H. HELLIWELL
New England Editor, TEXTILE WORLD

A PLANNED PROGRAM is necessary to obtain satisfactory lubrication of picker- and card-room machinery. The schedule should specify the type of lubricant to be used, the frequency and method of application, and the amount applied.

Experience shows that it is possible to meet the lubrication requirements of the picker room and card room with two viscosities of oil and two consistencies of grease. Containers for these four lubricants should be clearly marked to prevent use of the wrong lubricant. The color or density of different lubricants cannot be depended upon for distinguishing the different types of lubricants.

Only the oil that reaches the bearing has any lubricating value. Oilers should be supplied with sharp-pointed metal hooks and instructed to clean out all oil holes before applying oil to make sure that the oil gets to the bearing. Lead-in pipes to bearings should be removed and cleaned out at regular intervals.

Pressure fittings can be applied with good results to many open oil holes. Where fittings are used, the outside of the fitting should be wiped clean before the grease gun is applied to prevent any dirt or abrasive material from being forced into the bearing.

Too much lubricant can cause almost as much trouble as too little. Oil spoilage of stock often occurs in picker-beater chambers, card comb boxes, and roll necks on drawing and roving frames as a result of too much lubricant.

GREASING BEARINGS. There is a common mispractice in mills of overpacking grease-lubricated ball bearings and overfilling card comb boxes. The results are overheating and leakage. Comb-box temperatures fairly warm to the hand are no cause for alarm if the oil passages are clear for the splash feed from the eccentric.

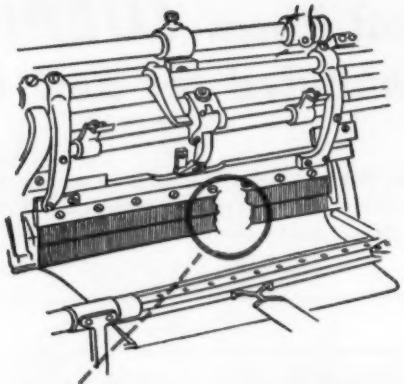
Where heavy grease is used on plain card-cylinder or similar bearings, good results are obtained by making a hole through the packed grease to the bearing and putting in a few drops of oil at regular oiling periods. This practice keeps the grease soft and in

(Continued on page 278)

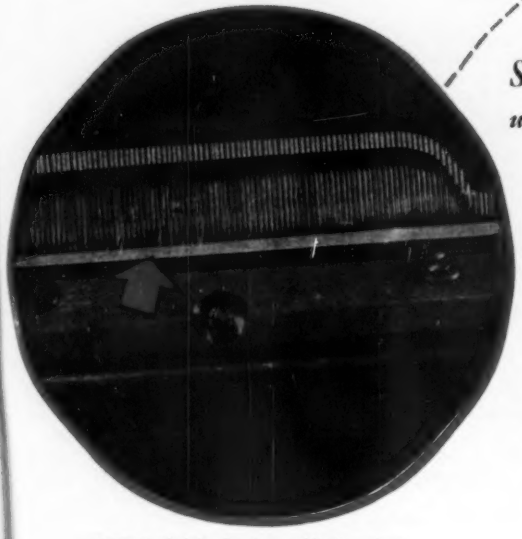
Lubrication Schedule

	Lubricant	Frequency
Blending Feeders and Openers		
Plain bearings	Medium oil	Each shift
Zerk fittings	#2 grease	Weekly
Ball bearings	#2 grease	Monthly
Step on vertical	#4 grease	
Aprons	#2 grease	3 Mo.
Shafting	Medium oil	Weekly
Pickers		
Plain bearings	Medium oil	Each shift
Beaters (ball bearings)	#2 grease	Monthly
Fans (plain)	Medium oil	Each shift
Zerk fittings	#2 grease	Weekly
Shafting	#4 grease	
Cards		
Cylinder bearings Doffer bearings Lickerin bearings	Medium oil	3 Mo.
Above bearings also oiled Band pulleys Feed rolls and side shaft Flat drive and bowls Loose pulley	Medium oil	Each shift
Comb boxes	Heavy oil	Weekly
Overhead shafting	Medium oil	
Drawing Frames		
Bottom shaft	Medium oil	Each shift
Calender roll	Heavy oil	
Draft studs Coiler Knock-off motion Bottom steel rolls	Medium oil	Each shift
Top-roll bushings	Heavy oil	Weekly
Roving Frames		
Head end and jack shaft Compound (bevel type) Cone and lay train Twin gears and builder	Medium oil	Each shift
Lifter shaft and weight sheaves		Weekly
Front steel rolls	Heavy oil	4 shifts
Middle and back steel rolls	#4 grease	3 Mo.
Top rolls	Medium oil	Each shift
Bobbin gears and bolsters		4 Mo.
Spindle steps		Monthly
Spindle and bobbin-shaft bearings	#4 grease	3 Mo.
Also oiled	Medium oil	Weekly

Note: Medium oil, 250 to 300 viscosity; heavy oil, 850 to 900. No. 2 grease, medium soft; No. 4, medium stiff.



Verge plates of nylon plastic wear far longer



CLOSE-UP of sinker-head assembly (top view) shows action of sinker-backs, striking against verge plate insert of resilient nylon plastic. Nylon inserts for "Reading" machines are molded by Vulcanized Rubber & Plastics Co., Morrisville, New Jersey.

Show no sign of wear after 4 months' use on "Reading" knitting machines

These new verge plate inserts of Du Pont nylon plastic mean substantial savings in time and maintenance costs for hosiery manufacturers. That's why they have been adopted by Textile Machine Works as standard equipment on "Reading" full-fashioned knitting machines.

The new nylon parts have needed no resurfacing, show no sign of wear after 4 months' use in mills. Too, verge plates of resilient nylon provide a better cushion for the sinker-backs . . help cut down breakage, cut out wasted time for replacement. These improvements over conventional verge plates are made possible by nylon's outstanding toughness, resiliency, and all-round durability.

This is but one example of the many textile machinery parts molded of Du Pont nylon now improving performance and saving money for manufacturers. Such nylon parts as bearings, flyer blocks, bolsters, cap bars, and thread guides are becoming standard equipment in more and more mills.

Demand for nylon plastic currently exceeds supply. However, we'll gladly work with you in suggesting or developing new applications for the future. Write today for more data.

DU PONT

REG. U.S. PAT. OFF.

BETTER THINGS FOR BETTER LIVING
. . . THROUGH CHEMISTRY

Polychemicals
DEPARTMENT
PLASTICS • CHEMICALS

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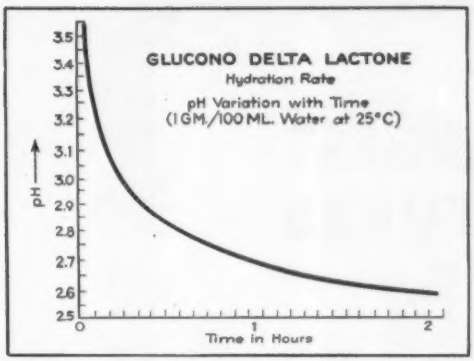
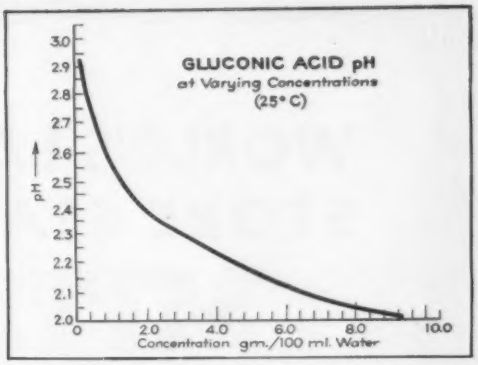
7 S. Dearborn St., Chicago 3, Illinois
845 E. 60 St., Los Angeles 1, California



GLUCONO DELTA LACTONE can be converted by hydration to gluconic acid by the gradual decrease in the pH of the solution.



The pH OF GLUCONIC ACIDS, in comparison with other acids, indicates its mild nature.

GLUCONIC ACID — Versatile Agent
For the Textile Chemist

▶ ***Here's the story on properties, present uses, and potential uses of a mild acid relatively new to the textile industry. It has potential uses as an acid, as an acid-forming catalyst, and as a sequestering agent.***

By JAMES P. BILELLO, *Technical Service Dept., Chas. Pfizer & Co.*

GLUCONIC ACID, because of its non-toxic, non-tendering, non-corrosive nature, is finding new uses in the textile industry and has properties likely to widen its usage. It is one of the mildest of commercially available non-volatile organic acids.

Chemically speaking, gluconic acid is 1,2,3,4,5 pentahydroxy caproic acid, $CH_2OH(CHOH)_4COOH$ and is produced by a fermentative oxidation of glucose. Its ionization constant is 2.5×10^{-4}. While it is possible to prepare this acid as a white, odorless powder, because of the high cost involved the acid of commerce is a 50% aqueous solution of gluconic acid. This solution is light brown in color, has a slightly acetous odor, and a specific gravity of 1.24 at 25° C.

The ammonium salt of gluconic acid is useful as an acid-forming catalyst. Ammonium gluconate is a stable, free-flowing, odorless powder that is soluble to the extent of 31.6 gm. per 100 ml. of water at 20° C. It is non-toxic, non-corrosive, and non-tendering as is the parent acid. Although neutral in reaction when dissolved in water, it decomposes upon steaming to form gluconic acid and ammonia.

The anhydride of gluconic acid, plucono delta lactone, is also commercially available. It occurs as a white, odorless, crystalline powder. The chemical is free flowing and stable in air. Glucono delta lactone is easily soluble in water and hydrolyzes to form odorless, colorless solutions of gluconic acid.

A 50% solution made from the lactone would be identical to the acid of commerce in all its properties with the exception of odor and color. Glucono delta lactone is of a higher degree of purity. The conversion of glucono delta lactone by hydration to gluconic acid is clearly shown by the gradual decrease in the pH of the solution, as is illustrated in the first of the accompanying curves.

MILD ACIDS IMPORTANT. The importance of such properties as non-volatility, non-corrosiveness, non-tendering, and non-toxicity is well known to the textile chemist. Whenever possible, chemists avoid use of the less expensive but considerably stronger inorganic acids such as hydrochloric or sulphuric acids. Whenever practical, the milder organic acids such as acetic, formic, lactic, and glycolic acids are preferred.

While these acids are widely used because of their milder nature, they too have their shortcomings, as is indicated by their lack of contribution to color fastness and brightness in certain cases. Their volatility also results in irritating vapors and odors in the case of acetic and formic acids. Lactic acid and glycolic acid are known to produce tendering effects.

Of the more common commercially available non-volatile organic acids, gluconic acid exhibits the lowest rate of corrosion. Fabrics impregnated with concentrations as high as 10% acid, subjected to accelerated ageing treatment, and tested by conventional tensile-strength tests were shown not to be tendered by gluconic acid. Gluconic acid is also stable and non-volatile and, as a result, does not produce the irritating vapors commonly encountered with acids in dyeing and printing operations.

In view of the non-tendering, non-toxic nature of gluconic acid and the fact that it does not give rise to unde-

(*Continued on page 286*)

WORLD'S LARGEST STORE FEATURES MITIN* MOTHPROOFING in "Most Successful Advertisement"!

Famous Macy's (New York) reports that a single newspaper advertisement and window display for camel's hair coats** pulled the best of many outstanding promotions during their annual August winter coat sale.

These were the only coats sold with MITIN'S five-year guarantee against moth damage and Macy's credits MITIN Mothproofing with much of the excellent response to the advertisement.

Buyer Stanley Bernstein reports:

"We were delighted with the customer acceptance of this Macy's 'first'. The response to this promotion proved that lasting MITIN Mothproofing is a definite selling aid. The plus value of work-saving, money-saving, worry-free guaranteed mothproofing appealed to Macy's value-conscious customers. MITIN really helped us sell the coats!"

Proving once again that consumers are interested in Durable MITIN Mothproofing... proving that Durable MITIN Mothproofing sells goods in the face of dull times. MITIN Mothproofing will move *your* goods.

***Security Mill's 100% camel's hair tailored by Jane McKenna, Inc. and Mothproofed with MITIN.*

**U.S. Pat. No. 2,311,062*

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Dyestuff Makers Since 1859

GEIGY COMPANY, Inc.

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For more information, write direct or use Reader Service post card.

CARTONS ARE PACKED on the conveyor with goods brought in on hand trucks. Then they are pushed along the conveyor to the strapping operator in the background.

AFTER STRAPPING, the carton moves around a curve in the conveyor and to a section of rail fastened to the scales. Here the carton is weighed on the conveyor, stenciled, and pushed onto the belt conveyor in the background. One carton maker, two packers, one strapper, and one weigher handle the cartons in a continuous flow.

How Startex Streamlined Its CARTON HANDLING

▶ *Conveyor for handling shipping cartons is a moving production line at Startex Mills, Tucapau, S. C. The arrangement has eliminated lifting and trucking and increased significantly the number of shipments the department can handle.*

▶ *Installed by Alvey Conveyor Mfg. Co., St. Louis, the conveyor has two roller sections with an inclined belt section connecting them. The shipping cartons are made up and placed on the conveyor — and the operations shown here begin.*

DOWN IT GOES to the shipping room on the floor below. The motor-driven belt lowers the carton at a steady speed. The roller conveyor below makes an L turn.

END OF THE LINE is in the shipping room. Cartons are taken off the conveyor by hand trucks and stored or loaded on a freight car or truck. All three conveyor sections were installed alongside walls to save floor space, to avoid traffic aisles and work areas, and to permit expansion if there's a need.

THIES

DYEING EQUIPMENT OF WORLD-WIDE RENOWN.

As manufacturers of dyeing apparatus for sixty years, we now enjoy a world-wide reputation.

Universal dyeing apparatus for all normal yarn packages.

Guaranteed levelness and perfect matching in all shades.

A universal after-treatment apparatus which works most economically and with short liquor ratios.

Liquor ratios 1 to 3 up to 1 to 4. Boiling-out, pre-treatment, sucking-off, rinsing, steaming, oxidizing, soaping, and every other type of auxiliary treatment.

Pre-treatment apparatus with circulation by means of vacuum, suitable for all bleaching processes.

All made in special stainless steel.

RAPID DRYING APPARATUS giving the shortest drying time without affecting the fibre.

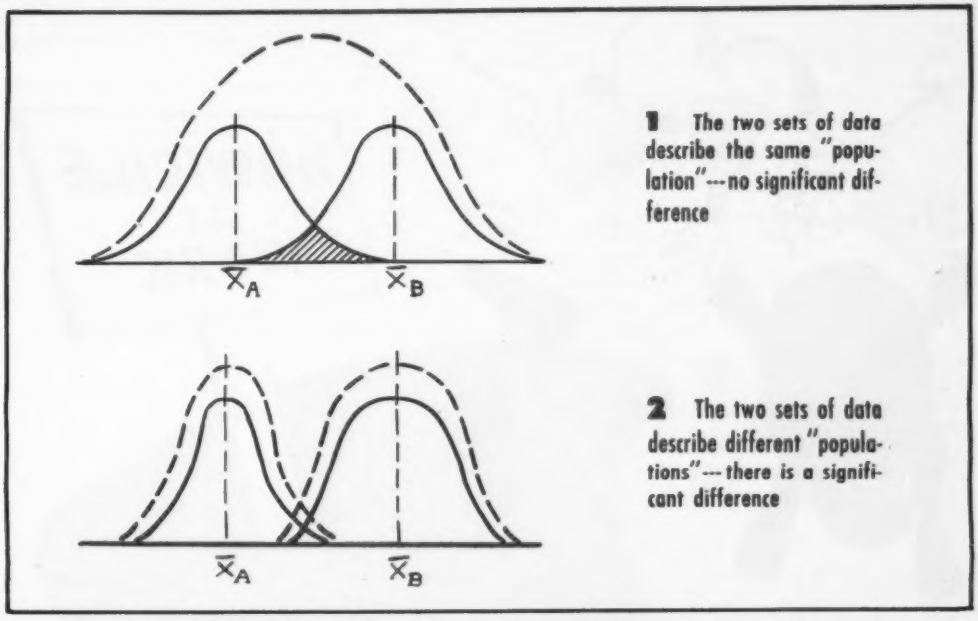
After initial loading, prior to wetting-out, packages are not handled until dyed and dried.

No deformation of the cheeses or cones.

B. THIES

SPECIAL MACHINE FACTORY FOR DYEING AND BLEACHING PLANTS

COESFELD/WESTPHALIA, Western Germany



1 The two sets of data describe the same "population"—no significant difference

2 The two sets of data describe different "populations"—there is a significant difference

THE ASSUMPTION IS MADE, in the tests here, that the measurements in each set of data form a normal, bell-shaped curve with most of the numbers clustering about the average and a smaller amount at either extremity. The spread of one of the curves is a measure of its variation. When two sets of data are being compared, we try to determine if they overlap to the extent that they really all come from the same "population," where they would not be significantly different, or if they actually form two different "populations."

Can You Trust Averages?

► No, says the writer. A simple statistical method is helping Wamsutta Mills to analyze data accurately. Yarn A may not be stronger than yarn B, even though yarn A has a higher average breaking strength.

► This tool helps mills to tell whether any two products are different in any mathematically measured property.

► This 10-min. method that most any mill lab can apply for you works for any textile product where variation exists.

By EDWARD S. RUDNICK
Director of Research, Wamsutta Mills

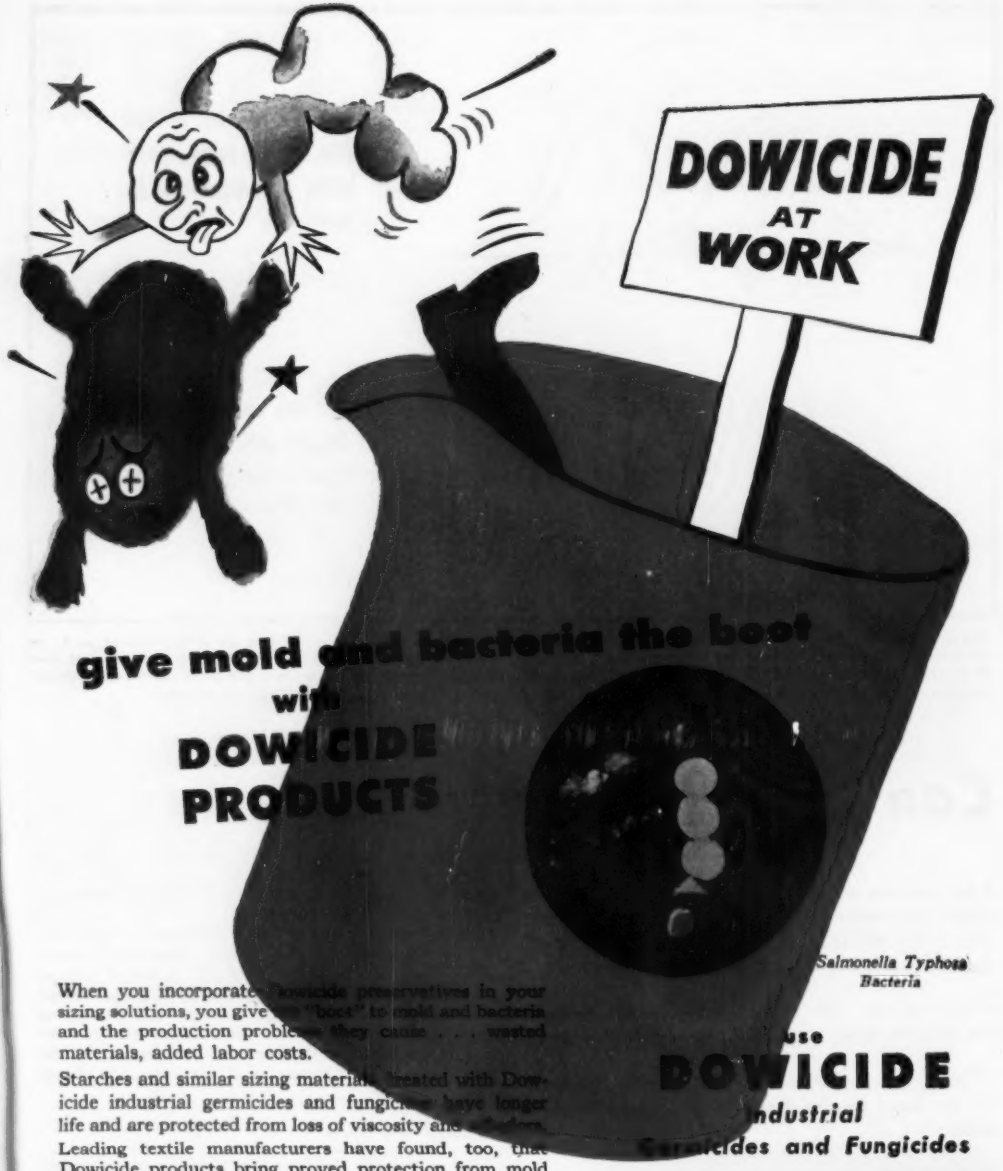
Why Use Significance Tests?

Every time two textile products are being compared—roving from two different type rolls, fibers with different staple lengths, fabrics with different sleys, etc.—the following questions should arise: Is this product really superior in the characteristic being measured just because its average in some property is higher? Could the difference in the two averages be due to just chance alone? If the measurements were repeated, is it not likely that the better one might turn out to be the poorer?

By means of a couple of simple mathematical tools that any lab can apply and that every overseer should know about, these questions can be readily answered without repeating experiments to make sure. The tools are known as statistical significance tests. They are just a couple of formulas which show whether the numbers from two sets of data are "significantly different," or whether the difference between the averages of the data is due to chance alone.

Basis of the Tests

In any test, the numbers forming the data are usually the results of a series of measurements on samples. The samples are selected to best represent the results of the operation in question. Since we rarely have enough data (in the form of measurements) to know the exact results of the process, we try to estimate these from the samples representing the process. We will show below how two "yardsticks," the "mean" and the "variance," of a set of data are calculated. These two "yardsticks" statistically describe the data and are estimates of a much larger imaginary "population" comprised of a tremendous accumulation of data. Thus, it is possible for two sets of samples drawn from the same population to have different "yardsticks." How far can the two samples differ from each



give mold and bacteria the boot with DOWICIDE PRODUCTS

Salmonella Typhosa
Bacteria

When you incorporate Dowicide preservatives in your sizing solutions, you give the "boot" to mold and bacteria and the production problems they cause . . . wasted materials, added labor costs.

Starches and similar sizing materials treated with Dowicide industrial germicides and fungicides have longer life and are protected from loss of viscosity and [illegible]. Leading textile manufacturers have found, too, that Dowicide products bring proved protection from mold and bacterial attacks in stored warp yarns and gray goods. Dye-forming organisms that make time-consuming and costly bleaching necessary are no longer a threat.

Decide on Dowicide industrial germicides and fungicides and bring effective, economical microbial control into your plant today. It pays! Dow maintains complete laboratory facilities to help solve your problems. Contact our nearest sales office or write to Midland.

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Dow Chemical of Canada, Limited, Toronto, Canada

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DOWICIDE
Industrial
Germicides and Fungicides

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CHEMICALS
INDISPENSABLE TO INDUSTRY AND AGRICULTURE

other and still represent the same population? This is the question answered by significance tests.

Here's How a Mill Can Use the Test

For each set of data we must compute the two "yardsticks," the "mean" and the "variance," for substitution into the formulas. The way these are computed can be best seen by following the mechanical steps of a specific example. The two columns below represent tensile strengths of the same count of yarn spun from two different hanks of roving spun with two different spinning drafts. What we wish to determine is whether a change in spinning draft of the amount represented here causes a significant change in the tensile strength of the yarn produced. In each case, 12 bobbins were selected to represent a population of thousands of bobbins spun under the conditions being investigated.

Skein Break—Lb.

A	B
41	40
39	34
37	33
36	35
40	36
38	37
34	39
34	35
37	34
36	34
35	35
36	38

To make such a comparison without significance tests, we would merely add the figures and then divide each sum by 12, the number of items in each column. Here, the first column averages 36.9 and the second 35.8. Thus, other things being equal, "A" looks like stronger yarn than "B", until we ask ourselves the questions on significance.

Although significance tests can be performed by hand, the simplest way is with an automatic calculating machine. Such a machine is as important an investment for a textile laboratory as any of the testing instruments. With the machine, we find the sum of the squares of each number in each column. That is, we multiply each number by itself and add up the products. This is a single operation known as cumulative multiplying. When the column is completed, one bank will read the sum of the squares and the other will read the sum of the individuals. We then compute the means and the variance according to the formulas given at the end of this article.

Since these two "yardsticks" statistically describe each "population," we must compare them, respectively, to determine whether or not the two populations are significantly different.

First, we find if the variance of "A" is significantly greater than that of "B." If it turns out to be so, then we know that the two come from two different populations of data, with "A" having a greater yarn-strength spread than "B." To determine this, we perform a so-called "F" test by taking the ratio of the two variances.

Using tables such as those of Prof. Snedecor (found in almost any statistics book), we find that for 12 individuals in both the numerator and denominator (11 "degrees of freedom"), the ratio would have to be at least 2.82 before the two variances could be considered significantly different. Our value is 1.01. Thus, the variance of "A" is actually no greater than that of "B."

Now, having shown that the two variances would be expected to have come from the same population, we determine if both sample means could have come from the same population having a variance which is jointly estimated from the two samples. We do this by calculating "t."

Using Prof. Fisher's tables for student's "t" distribution (also found in almost any book on statistics), we find that for a total of 22 degrees of freedom, "t" would have to be greater than 2.07 to be considered significant. Our value is 1.19. Therefore, the difference in the two mean strengths above is not significant, so the yarn produced from roving "A" is actually no stronger than that from "B."

Three things can be seen from this illustration. First, the larger the sample size (the more "degrees of freedom") we have, the more accurate is the grand population estimate as determined from the parameters or "yardsticks" of the sample. Thus, with more degrees of freedom, the "F" and "t" values necessary to prove significance are smaller. Secondly, the initial calculations should be carried out to several places, which merely means copying down more numbers from the answers shown on the calculator. Lastly, we can see that in comparing the

WAMSUTTA USES THIS METHOD TO COMPARE:

a. Yarn strength, sizes, and break factors on yarn spun:
   1. in different mills.
   2. in different rooms.
   3. from different rovings.
   4. with different staple lengths.
   5. with different twists.
b. Size and strength differences of close yarn counts and close twists.
c. "Control" vs "test-sample" data from almost every process.
d. Fabric tensile and bursting strengths of cloth:
   1. from the same roll.
   2. from different rolls.
   3. from different lots.
   4. from different competitors.
   5. after varying number of washings or degrees of bleaching.
e. Nep count data of cotton:
   1. before and after stripping the cards.
   2. of different types or different lots.
f. Uster Tester evenness data from different samples of sliver, roving, and yarn, where each number is the maximum variation for each yard of material. (This is an important application of significance tests, since fallacious conclusions are apt to be drawn when two materials are compared for evenness when there are large variations in evenness from yard to yard.)
g. Yarn and roving before and after installation of a new part on a processing machine.

▶ Most mill men understand the meaning of "variation" as applied to any product from any production process. In fact, when we fail to find such variation, even in yarn size within a single bobbin, or in fabric tensile strength within the same roll of cloth, we suspect that our testing instrument is just not sensitive enough to detect the variation. Yet, even with this knowledge of inherent variation at hand, hundreds of comparisons are made each day without taking this variation into account. Many of the conclusions are therefore incorrect.

Many mill laboratories (and other departments) are already using statistics, but many others would say that yarn A is stronger than yarn B merely because its average break is slightly higher, or that one type cotton is neppier than another because one has a higher average nep count.

Guaranteed

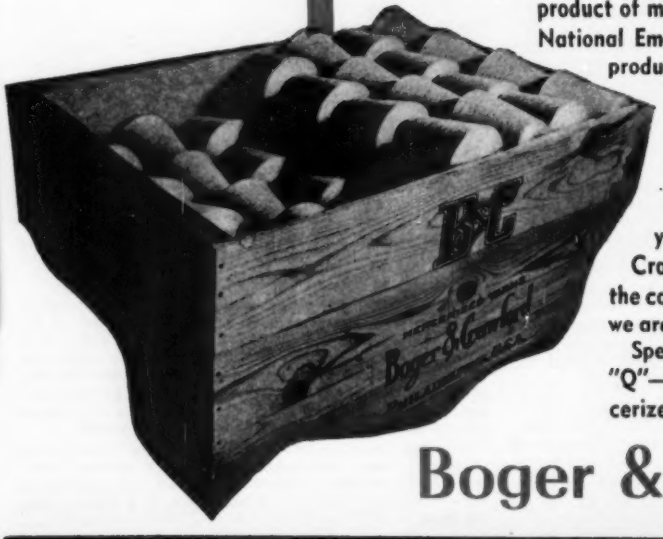
THE QUALITY OF BOGER & CRAWFORD KNITTING YARN IS GUARANTEED — THE HIGHEST TRIBUTE WE CAN PAY IT.

Signed Frederick Boger

Quality Yarns

. . . A Guarantee That Has Held For 44 Years and

. . . Is Doubly Important In The Present Emergency



Let Boger and Crawford cotton yarns help you produce a product of merit! You are called upon in the National Emergency to do the best possible production, and here Boger and Crawford mercerized yarns can help you.

With every order you are protected by our guarantee of quality. Industry over the years has constantly used Boger & Crawford's product, and because of the constant accuracy of performance, we are looked upon with confidence.

Specify Boger & Crawford Vitamin "Q"—"Q" for Quality—cotton, mercerized, Spun Nylon.

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means by a "t" test, either a larger difference between the means in the numerator or smaller variances in the denominator will tend to increase "t" and make it significant. This condition can be observed by the two curves in the accompanying illustration where either situation will decrease the area of overlappage.

Such a statistical comparison is relatively simple if one considers the wealth of information it can give. In fact, the one above was easily completed in 10 min.

Here Are the Formulas:

(1) $\overline{X_A} = \frac{\Sigma X_A}{n_A}$

where $\overline{X_A}$ = mean value

ΣX_A = sum of column A

n_A = number of figures in column A

(2) $V_A = \frac{\Sigma X_A^2}{n_A} - \overline{X_A}^2$

where V_A = variance of column A's data

ΣX_A^2 = sum of the squares of values in column A

$\overline{X_A}^2$ = mean value of column A, squared

(3) $F = \frac{V \text{ (larger)}}{V \text{ (smaller)}}$

(4) $"t" = \frac{X_A - X_B}{\sqrt{\frac{n_A V_A + n_B V_B}{n_A + n_B - 2} \times \left(\frac{1}{n_A} + \frac{1}{n_B}\right)}}$

But when $n_A = n_B$, as above, the formula simplifies to:

$$"t" = \frac{\overline{X_A} - \overline{X_B}}{\sqrt{\frac{V_A + V_B}{n - 1}}}$$

CLOTH DEFECTS CHART
Reprints Available

Reprints of the Cloth Defects Charts that appeared in TEXTILE WORLD, August, 1951, pages 113-119, are now available directly from the author. Cost per reprint is 50¢. Orders, with cash, check, or money order enclosed, should be sent to Mr. S. C. Veney, 1207 Cornwallis Drive, Greensboro, N. C.

Calculations for the Example:

(1) $\Sigma X_A = 443$ $\quad \Sigma X_B = 430$

$\Sigma X_A^2 = 16{,}409$ $\quad \Sigma X_B^2 = 15{,}462$

$n_A = 12$ $\quad n_B = 12$

$$\overline{X_A} = \frac{443}{12} = 36.917 \qquad \overline{X_B} = \frac{430}{12} = 35.833$$

(2) $V_A = \frac{16{,}409}{12} - (36.917)^2$ $\quad V_B = \frac{15{,}462}{12} - (35.833)^2$

$= 4.55$ $\quad = 4.50$

(3) $"F" = \frac{V \text{ (larger)}}{V \text{ (smaller)}} = \frac{4.55}{4.50} = 1.01$

(4) $"t" = \frac{36.917 - 35.833}{\sqrt{\frac{4.55 + 4.50}{11}}} = 1.19$

How To Set Up a Small Testing Lab

(*Continued from page 137*)

superintendents, and overseers. These men must know what the figures, charts, etc., mean so that they will be able to use them.

6. Use Correct Test Methods

Train lab technicians in the correct methods of procedure for each test. Before you send out any reports, be sure that correct test methods have been used.

7. Get Overseers' Confidence

Work with overseers and try tactfully to assure them that the lab is for their use. Otherwise, they may think of the lab as a tool of the plant manager to check on them personally. The overseers are the most important part of our quality-control program. The lab can tell them what is wrong, but it can't tell them how to fix it. Only they, as supervisors, can see that the faults are corrected.

8. Organize Standard Routine

Organize the tests of the lab into a standard routine, but leave enough time to make special tests. You should make special tests when routine tests indicate that something is wrong.

We made time studies to set standard times for each of the tests we make. Here are the standard times we use:

Test	Material Tested	Time of Tests
Cloth break, Scott	6 warps breaks and 6 filling breaks	18 min.
Skein break, Scott	10 bobbins of yarn from each count	23 min.
Evenness, Uster	10 yd. sliver	6 min.
Evenness, Uster	6 bobbins of roving from each hank	30 min.
Evenness, Uster	6 bobbins of yarn from each count	30 min.
Fiber strength, Pressley	6 breaks from each sample	24 min.
Fiber strength, Fibrograph	3 graphs each sample	26 min.
Lap uniformity, Saco-Lowell	1 lap	65 min.

9. Compare Reports With Other Mills

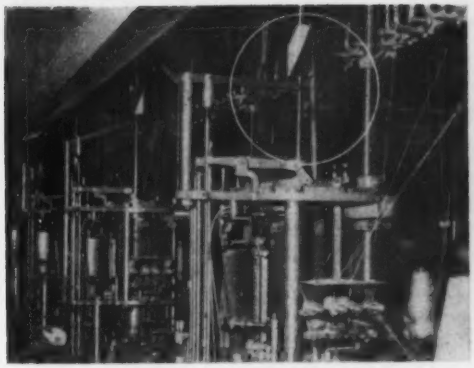
Close association with other mills will help you do a better job. Exchange with them, directly or through technical magazines and groups, findings from your tests. You will know better where you stand and also will know if you're getting good results.

WE PRACTICE WHAT WE PREACH

Because we believe in our own gospel for eliminating vibration-loosened fasteners, we use FLEXLOCs to provide *positive locking* on the caster assemblies of our Hallowell Platform Trucks.

Perhaps you have a vibration problem. If so, send for samples and literature.

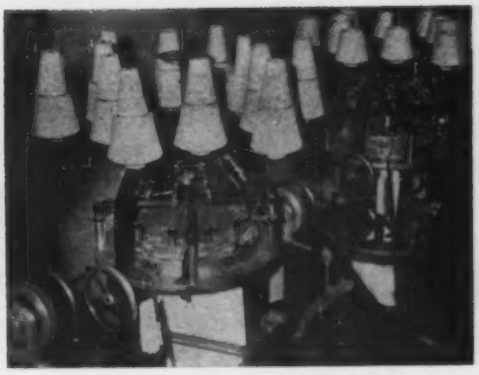
SPS



. . . . For MAXIMUM PRODUCTION

"BARBER-POLE" PAINT on the press-down-shaft weights is a big help to knitters, fixers, and supervisors at Spalding Knitting Mills, Griffin, Ga. A glance down a row of machines will reveal any machine that is not in operation.

The weights on the press-down shaft have been given a coat of white paint, and over this are painted red stripes, giving the effect of a barber pole. When the machine is in operation, the painted weight turns without attracting attention. But when the machine stops, the red and white stripes stand out like a red traffic light.



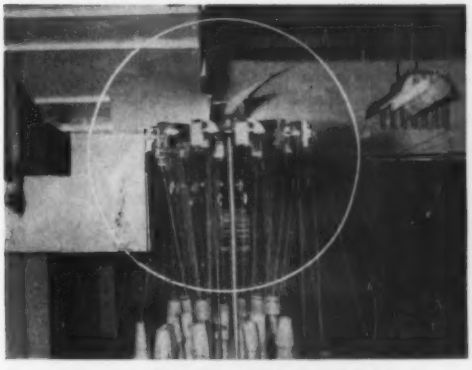
. . . . For NON-STOP OPERATION

EXTRA-LONG SPINDLES, twice the regular size so that two cones can be mounted securely on the knitting machine at the same time, help to eliminate run-outs and doffing time at E-Z Mills, Cartersville, Ga. In some cases, an extension was welded to the present spindle.

Results have been that when a cone is about two-thirds consumed, a new cone can be inserted under it, the ends tied, and the machine continues in operation without any interference with production or loss of time through stopping the machine to doff.

KINKS for KNITTERS

By **E. DALTON WHITE,** *McGraw-Hill Atlanta Bureau*

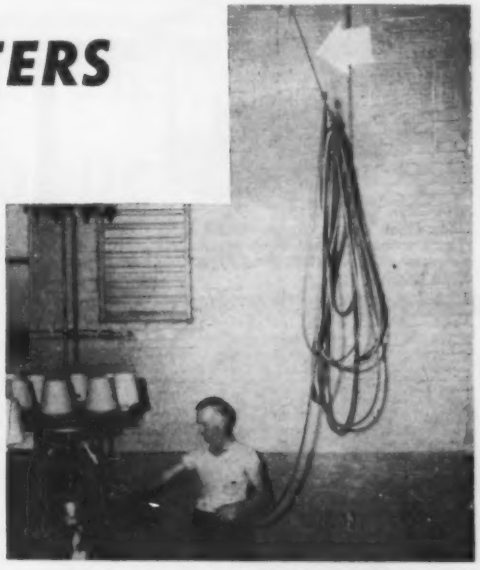


. . . . For CLEANER STOP MOTIONS

FAN BLADES mounted on top of a knitting machine have been found effective at E-Z Mills for preventing fly from settling on stop motions, where it can accumulate to the point of causing machine stoppage and loss of production. The arrangement has saved a lot of time formerly lost in blowing down.

The blades are made from light fiberboard, like that used to make patterns. Each blade is 6 in. at the small end, 9 in. at the large end, and 12 in. long. One end of a curved piece of metal, extending beyond the blade, is bolted to the top of the machine.

As the blades turn during knitting, they set up a slight air current that prevents fly from settling on the stop motions.

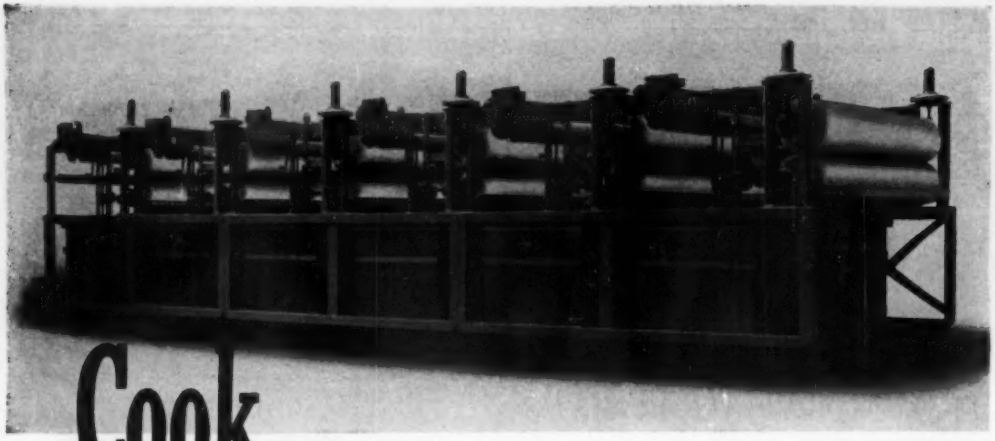


. . . . For EASIER BLOWING DOWN

A SMALL WIRE CABLE keeps an air hose out of the way at E-Z Mills. The cable is stretched between two rows of knitting machines at a height well above the machines.

Hangar rollers were installed on the cable and the airline hung in loops, the height of the bottom of the loop above head height. The air-line connection is from the side wall, against which the line is stored when not in use. As the knitter moves from machine to machine during blow-offs, the hose easily travels along the cable, always above the head of anyone passing down the aisle.

Each two rows of knitting machines has such an installation.



Cook P&N 100" face WASHER

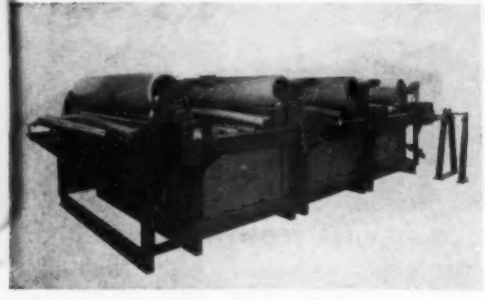
allows single or double stranding without rethreading

Cook Open Width Washer 8812-1 for highest efficiency with minimum water consumption. Strong stainless steel construction. Accessible. Easy to clean boxes.

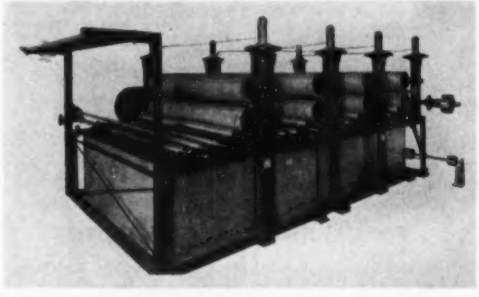
This Cook style D 100" face Washer 5786-1 is designed for rigidity and convenience of operation. Fabricated steel throughout and supported by I beams running across the machine making the complete machine one integral unit. Tanks are of stainless steel designed to be removed from the machine without disassembling any other part. Guide rolls are skyed for more complete washing. Preceding each nip is a single and a double expander preceded by an adjustable roll which allows single or double stranding without rethreading.

All Cook machinery is fabricated in our own shops allowing design flexibility *without* premium cost. Stainless steel fabrication eliminates broken castings and factory-made repair parts. All machines are guaranteed to perform as specified.

Your request for information will receive prompt attention.

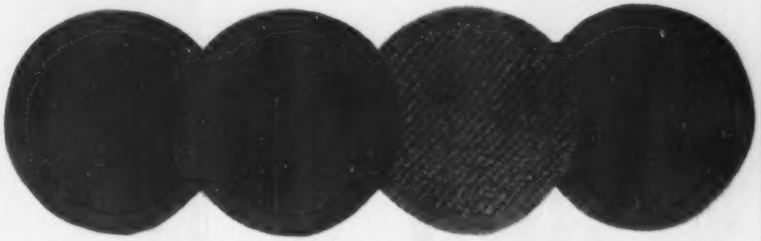


COOK 100" Face Washer 8856-1 is strong without excessive weight. Tanks made to fit your usage. Completely equipped with self-aligning ball bearings. Weight and lever, pneumatic or micro set pressure available. Side shaft drive shown; others are arranged with individual nip drive. Made in all widths.



COOK Crabbing Machine 6401-2 or Washer with stainless steel tanks supported by rigid frame of stainless steel which also mounts the guide rolls, squeeze rolls, tension device and roll-up. Two to ten tank machines for widths of fabrics. Each tank has four immersion rolls running in rubber or graphalloy bearings.

COOK-P & N MACHINE CO., INC., 365 Dorchester Ave., Boston 27, Mass.



	PATTERN 1 24s Botany 9 Z / 24 Botany 9 Z } 9 S	PATTERN 2 12s Botany 12 Z / 20 den. nylon } 12 S	PATTERN 3 12s Botany 9 Z / 20 den. nylon } 9 S	PATTERN 4 12s Botany 6 Z / 20 den. nylon } 6 S	
TENSILE STRENGTH warp	88 lb.	99 lb.	104 lb.	92 lb.	
TENSILE STRENGTH filling	84 lb.	79 lb.	64 lb.	70 lb.	
SEAMING QUALITIES warp	59 lb.	48 lb.	36 lb.	46 lb.	
SEAMING QUALITIES filling	48 lb.	55 lb.	49 lb.	51 lb.	
RESISTANCE TO ABRASION warp	20,000 rubs	28,000 rubs	20,000 rubs	10,000 rubs	
RESISTANCE TO ABRASION filling	20,000 rubs	20,000 rubs	12,000 rubs	8,000 rubs	
RESISTANCE TO CREASING (angle of recovery) warp	143°	148°	145°	145°	
RESISTANCE TO CREASING (angle of recovery) filling	143°	150°	140°	143°	

WOOL YARNS reinforced with continuous-filament nylon add wearing qualities to a fabric if the right amount of twist is used. Pattern 2, with 12 tpi. Z in the wool singles and 12 tpi. S in the ply, appears to be generally superior to the all-wool standard and the other blends. It behaved better in weaving than the all-wool pattern, although all patterns wove without difficulty. This test indicates that increased spinning production, obtained by using coarser wool yarns and continuous-filament reinforcing yarns, can be gained without losing any major physical qualities of a fabric and in addition they have increased strength qualities.

Up SPINNING PRODUCTION
With Filament-Base Combination Yarns

Fine-denier continuous-filament yarns can give added strength to weaker natural or man-made spun yarns and you can increase your spinning production at the same time. Here's how—

By ARTHUR JOHNSON
Head, Dep't. of Textiles, Technical College, Sydney, Australia

COMBINATION YARNS can be twisted successfully from a coarse end of a spun fiber and a fine end of continuous-filament high-tenacity fiber. These yarns will have the predominating characteristics of the spun end and will benefit from the added strength of the continuous filament supporting end.

In making these yarns, we have obtained the best results with a "straight fiber twist:" that is all of the singles twist in the spun end is removed in the plying. Thus, the spun end forms good cover for the supporting end of continuous-filament yarn.

The amount of twist in the singles and ply has a great influence on the fabric strength and weaving qualities, though all of the singles twist is taken out. When a comparatively large number of turns per inch is used, the supporting and covering ends are twisted about each other more, and the resulting yarn has greater stability. The table at the top of this page will illustrate this point.

Here's how you can raise your spinning productive capacity with these combination yarns. A 2/24s worsted yarn requires raw wool and preparation demanded for two ends of 24s yarn. A combination yarn of relatively the same size and with equal or superior characteristics can be made from one end of 12s worsted and one end of 20-den. nylon.

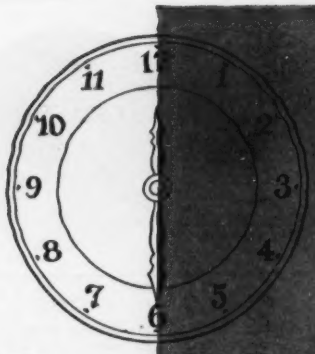
To spin 12s worsted yarn, you don't need quite as fine wool, and the preparation does not have to be quite so good. Also, you need spinning capacity for only one end of 12s while you did need spinning for two ends of 24s.

This saving in raw material and processing is even more evident when you get into finer yarns. For example, an end of 70s worsted and 30-den. rayon will make a combination yarn equal to about 50s worsted count. An all wool yarn of this size would require two ends of 100s.

(*Continued on page 278*)

$3,000

...for the half-hour that wasn't there



WHEN a Massachusetts company* surveyed their plant methods, they were amazed to find how much it was actually costing them to keep their machinery lubricated.

The lubrication cost was $14 every day. Added to that was the cost of the half-hour's production time lost every day while the machinery was stopped for lubrication.

This manufacturer called in an Alemite Lubrication Engineer. He recommended a system that *automatically* lubricated all the machinery . . . while it was running! The result: the lost half-hour was converted to productive time and the cost of lubrication was cut from $14 a day to only 21c a day. The total savings are over $3,000 every year.

Call Your Alemite Lubrication Engineer

No matter what size or type of plant you operate, Alemite can show you dozens of ways to save through the more efficient handling of petroleum products. Call your local Alemite Industrial Distributor now or send for the free booklet "11 Ways to Cut Production Costs." Simply attach the coupon below to your letterhead. Dept. J-101, 1850 Diversey Parkway, Chicago 14, Ill. *Name on request

ALEMITE

MEANS EVERYTHING FOR LUBRICATION

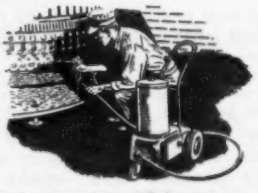
1. Methods 2. Lubricants 3. Equipment

Another Product of Stewart-Warner

Alemite Cuts Costs 3 Ways

1. In transferring lubricants . . . cuts man hours 63% for every 100 pounds transferred. Eliminates mess, costly contamination.

2. In loading grease guns . . . saves 3¾ man hours for every 100 pounds of lubricant loaded into hand guns.



3. In applying lubricants . . . saves up to 23.9 man hours for every 100 pounds of lubricant applied to bearings.

FREE! Valuable Booklet—

"11 Ways to Cut Production Costs"...

(Simply attach to your letterhead)

ALEMITE, Dept. J-101
1850 Diversey Parkway, Chicago 14, Ill.

We'll include facts on the new Alemite Oil-Mist System, too—(OIL-MIST atomizes oil into mist, circulates it to bearings under pressure. Increases life of bearings as much as 17½ times).

Name_____

Company_____

City_____ State_____

TEXTILE Equipment NEWS

Picker Improvements Can Be Applied to All Models

A new picker that includes several improvements that can be applied to old pickers has been developed by Saco-Lowell Shops, 60 Batterymarch St., Boston, Mass. The new machine, made with steel plates instead of cast iron, is much smoother and has less tendency to collect fibers. Grate or leaf bars have been eliminated in the new model because the company found that the cleaning those bars did was not sufficient to justify the care that they required.

The three improvements that can be applied to an old picker as well are:

1. Universal Grid Bars

Picker droppings are said to be increased as much as 100% without wasting an appreciable amount of good cotton when the new bars are used. The grid-bar assembly for a 16-in. beater consists of cheeks for bolting to the picker sides, four triangular grid bars with adjusting brackets, and an adjustable steel bottom for controlling the air currents.

All four bars are used for a blade beater, but the top grid bar may be omitted on a breaker section, and two bars may be left off for finisher-section picking.

The new grid bars are so solidly constructed that they do not deflect, even when set as close as ⅛ in. from the path of the beater. Each grid bar can be set individually. The angle that the bar presents to the stock can also be individually adjusted. And the whole assembly can be adjusted as a unit if necessary.

2. Fringe Roll

Greater fiber separation and a more even distribution of the beater blows on the fringe of fibers is claimed for this new roll. The fringe roll is placed between the evener roll and the beater.

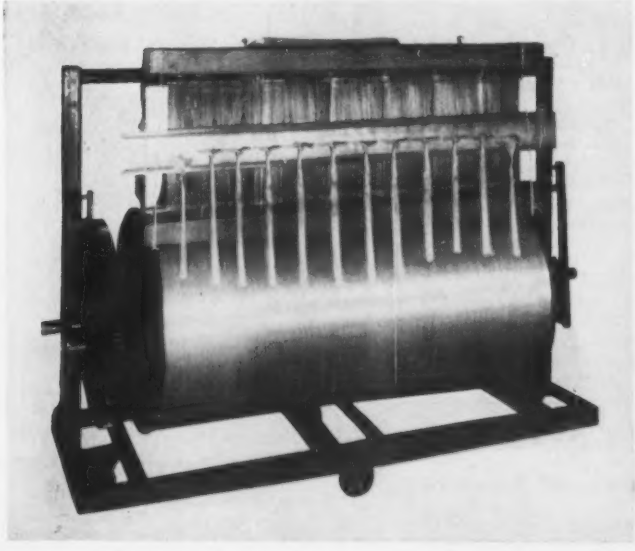
This new roll delivers the fibers closer to the beater and therefore controls the fibers for a longer time. The fringe of fibers coming from the feed rolls is held up and forward into the path of the beater.

Laps are said to be more resistant to splitting because fibers, prevented from accumulating, are detached immediately from the fringe by the beater. Bunches are said to be eliminated—a factor that permits the lap to be fed at a more uniform rate to the card lickerin and cylinder.

3. Pneumatic Rack Control

Greater lap weights and higher uniformity are claimed possible with the pneumatic rack control. Doffing interval is increased, and manual movements in doffing the picker are reduced.

In operation, air forces the lap racks down on the lap rod when the foot lever is pressed. As the lap builds up, air pressure holds the lap under a constant force. At the end of the lap, the knock-off motion automatically raises the lap racks so that the lap may be removed.



NO PART OF THIS BEAM TRUCK touches the yarn, so the warp can't be damaged or dented.

All-Steel Beam Truck Has Only One Moving Part

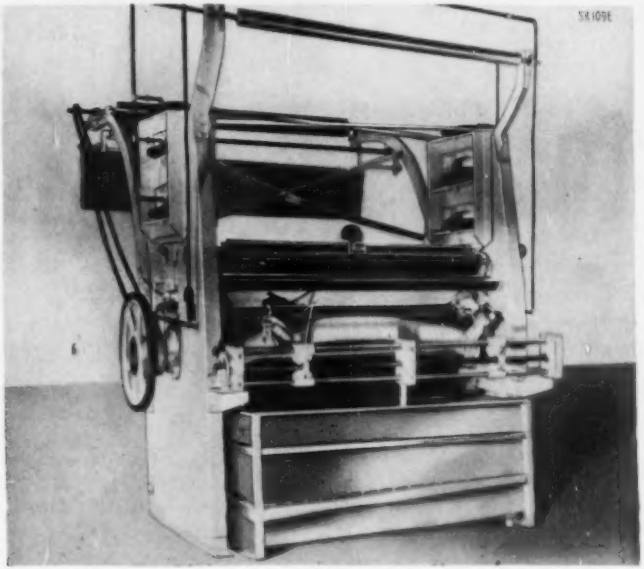
A portable beam truck that supports the beam by the beam shaft is now being made by Standard Mill Supply Co., Pawtucket, R. I. The beam can be put into the loom from the truck by rolling down a slight decline.

The upright part of the truck has an adjustable bearing so the beam can be carried high at just the right height to roll into your looms.

Harness-frame arms on the truck will hold up to 25 harness frames that are ½ in. thick.

Plastic, roller-bearing casters on the truck are equipped with thread guards. This type of caster is said to not mar or smudge highly polished floors.

Padder Has Air Motors for More Even Pressure



THIS PADDER gets pressure from air motors instead of standard-type cylinders with cup or adjustable packing.

A new padder that has diaphragm-type air motors has been announced by Riggs & Lombard, Lowell, Mass. More even pressure from side to side is said to be assured because friction and air leakage are eliminated. Maintenance economy is an additional benefit obtained because the bottom roll is stainless steel instead of rubber.

Pressure is obtained through the use of three diaphragm-type air motors on each side. Each set of air motors is connected to a sliding yoke that comes down directly on top of the top-roll bearings. The air motors give a pressure of 350 lb. per linear in. of roll surface.

For top-roll-lift equipment, there are two 5-in. standard-type cylinders equipped with levers so that—when pressure is released from the diaphragm motors—the top roll may be lifted out of contact with the bottom roll.

At the entering side, a stainless-steel tank, with suitable immersion rolls, is located under the main rolls. A set of cloth guiders at the entering edge of the tank keeps the cloth centered as it goes into the tank. Just ahead of the main rolls, a single expander roll insures that the cloth goes into the rolls open width and free from wrinkles.

To keep the roll free from flocks, a flock brush complete with flock tray is located on top and in front of the top main roll. At the delivery side of the machine is a folder that receives its drive through roller chain and sprockets from the bottom main roll. The main drive is normally through a variable-speed unit, so that cloth speed may be varied as required.

Attachment Increases Capacity of Cylinder Dryers

An attachment—the Shirley Accelerated Drying Device—that is said to bring cylinder dryers closer to hot-air systems in speed and efficiency was described recently by Mr. E. H. Jones of the British Cotton Industry Research Assn. The device is particularly applicable to dryers that have a few large cylinders.

The conventional wooden hood is removed and is replaced by metal covers that fit around the parts of the cylinders that the warp contacts. These new covers are sealed at the sides. Unheated air is drawn in at the ends of the covers and exhausted through slots that run the full width of the covers and are located half way along them. Ducts, which carry the moist air away, have dampers in them to control the rate of drying.

With the new system, the evaporation rate is said to be raised by about 60%. This increased production depends of course, on specific mill conditions.

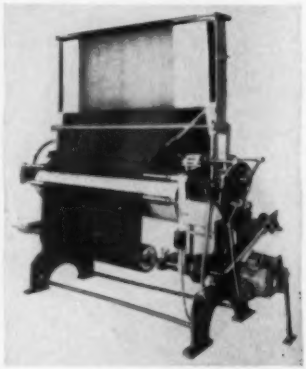
No more steam is required for the new system because it was found that room-temperature air was just as effective as preheated air. The only additional expense is installation and fan operation.

The increased drying capacity obtained with the Shirley drying device is said to bring the cylinder dryer much closer to the hot-air machines in production capacity. The advantages of control of the warp ends, shorter length of warp in the dryer, and steam economy are retained.

Coming Next Month—

Annual Review of New Equipment

Constant-Speed Examiner



NO CHANGE IN SETUP is said to be necessary when inspecting finished goods or gray goods on this machine developed by Hinnekens Machine Co., Paterson, N. J. The unit also has an automatic piece-stamping device.

SERVING THE TEXTILE INDUSTRY SINCE 1899

Improved

PACKAGE DYEING

with SONOCO

DYTEX® TUBE

For one time use only—the Sonoco Dytex Tube is a proven yarn carrier for all standard forms of package dyeing. Standard sizes ⅝" I. D. × 6¾" long and 1⅝" I. D. in varying lengths. Special sizes available.

PLASTOVON SLEEVE

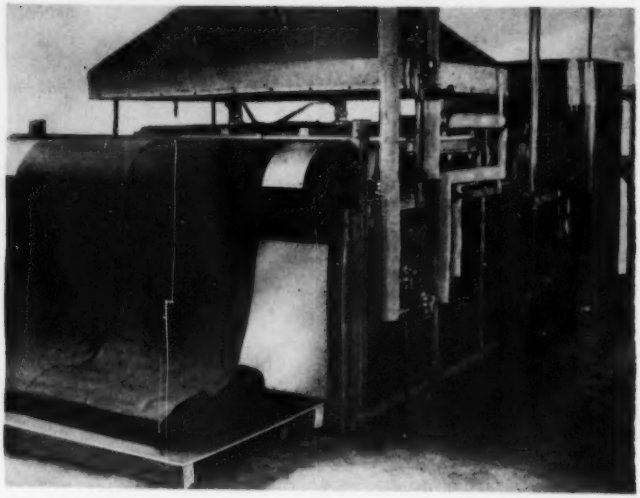
A filter sleeve that also acts as an aid to more even dye distribution next to the tube, better control of "flow" throughout the entire package of yarn, reduced slippage in primary winding.

SONOCO PRODUCTS COMPANY

BRANTFORD ONT. | HARTSVILLE S. C. | MYSTIC CONN.

DEPENDABLE SOURCE OF SUPPLY

British Continuous-Shrinking Machine Is Tensionless



FEED END of the Emerson cloth-shrinking machine is said to reduce shrinkage problems on Hoffman presses.

A shrinking machine that is said to guarantee a dimensionally stable fabric of good quality has been developed in England by W. S. Emerson. The machine consists of a tensionless overfeed, a steaming arrangement, a dryer, and a stabilizer.

Fabric is fed into the machine in either doubled or rolled form, open or double width. The material is overfed at a calculated differential onto a steaming conveyor. A specially designed chamber is said to induce fiber and yarn relaxation under uniform conditions.

An infrared element dries the fabric and restores it to a normal regain. This arrangement is said to be responsible for the high speeds attainable with the machine.

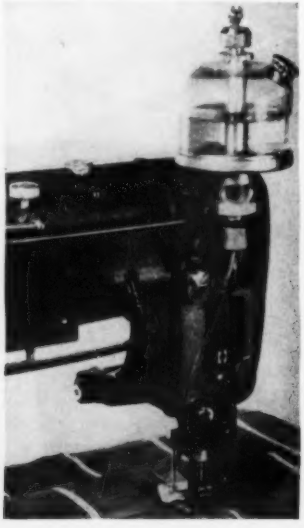
After leaving the infrared unit, the material is cold-set by a high-velocity air impact. This system cools, sets, and stabilizes the fabric, which is delivered evenly and without tension by an automatic device at the end of the unit.

No recuperation time is said to be necessary for fabrics treated in the new machine. All types of woolen and worsted fabrics can be processed.

A feature of the machine is the ability to vary each processing factor—volume and pressure of steam, intensity and duration of drying, degree of cold setting, and speed of both conveyor and overfeed.

Speeds of from 7 to 27 yd. per min. are possible. A 70-yd. piece usually takes 4 to 6 min. Machine operation is entirely automatic, and the operator can be preparing the next piece, measuring, or inspecting while the machine is running.

Needle Cooler Allows Sewing With Orlon Thread



LIQUID-COOLED NEEDLES can now sew with Orlon thread without melting the thread.

Development of a new needle cooler for sewing machines has been made known by Union Special Machine Co., 400 N. Franklin St., Chicago, Ill., and Singer Sewing Machine Co., 149 Broadway, New York, N. Y. Liquid is used to dissipate the needle heat that formerly melted sewing thread made of Orlon acrylic fiber.

The new device includes a reservoir for the coolant that feeds by gravity through a capillary tube to a small, flat pad. The needle passes through the pad before piercing the fabric and is cooled by the liquid in the pad.

Commercial sewing speeds on both cotton and Orlon fabrics have been attained with Orlon threads when the new device is used. Dyed, painted, and coated fabrics weighing up to 20 oz. per sq. yd. have been sewn.

Waste Machine Redesigned

The W-6 waste machine is now being made instead of the older W-3 model, according to Saco-Lowell Shops, 60 Batterymarch St., Boston 10, Mass. The new machine is made of fabricated steel (instead of cast iron) and uses 16-in. cylinders (instead of 30-in.).

Better opening is said to result with the smaller cylinder. Cylinder speeds have been increased to 1,390 rpm. for each section.

Hardwood lags on the cylinder are now fitted with a steel face plate that eliminates the securing bands formerly required. The cylinder doesn't have to be removed for lag replacement.

The new waste machines are made in sections from one to six. A single-section machine is sufficient for ordinary roving waste. The two-section machine is for fine roving waste that contains some twist. The three-section unit is recommended for hard thread waste that must be put through twice for proper reduction.

Rugged dependability

The outstanding knitting results achieved with Textile Spring-Beard Needles are the result of strength and flexibility built in during the manufacturing process. A special steel formula, superior tempering and scientific controls—automatic and electronic—are the reason for this rugged dependability.

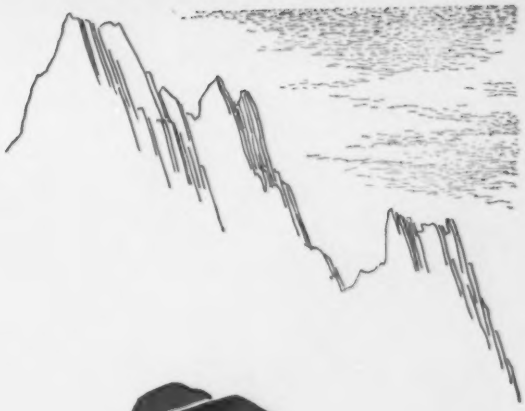
Strength and flexibility are two of the many advantages you get in Textile Spring-Beard Needles. You can see the results in better fabrics, increased profits.

TEXTILE MACHINE WORKS, READING, PENNA.

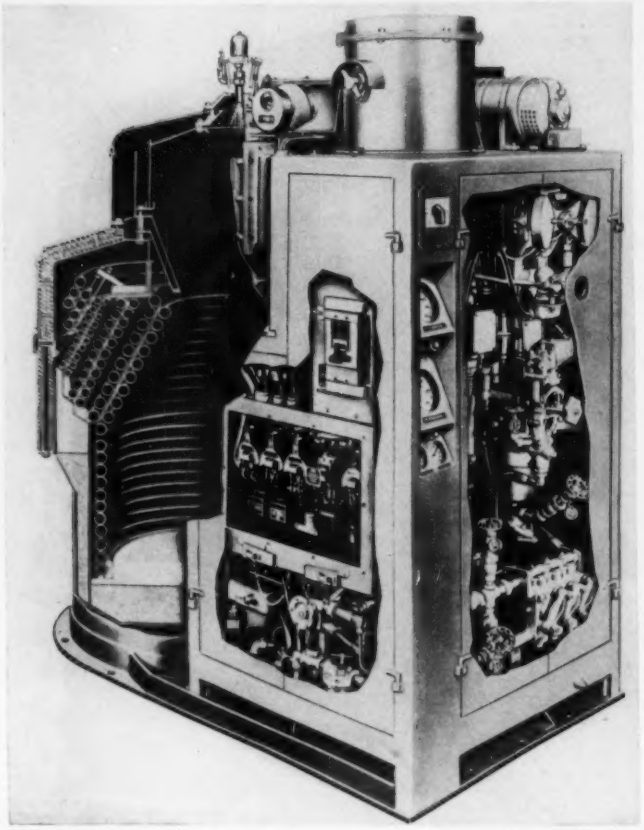
Textile
SPRING-BEARD NEEDLES

For Full-Fashioned Knitting

For Tricot Knitting



Steam Generator Takes One-Third Normal Space



NO SPECIAL BUILDING or walled-in space is necessary for this 52-in. wide, 76-in. long, and 78-in. high steam generator.

A steam generator developed to supply large quantities of high-pressure dry steam has been announced by Vapor Heating Corp., 4501 W. 16th St., Chicago, Ill. The new unit develops 200-lb. steam pressure from 50° water in 2 min. The unit can produce 4,800 lb. of 99% dry steam per hr. at 82% efficiency.

Using No. 2 fuel oil, the generator can be used for making steam, for heating, and for any application where high-pressure steam is required.

The new generators are available in capacities of 300 to 5,000 lb. of steam per hr. at pressures from 75 to 600 lb.

Once started, automatic controls take over the operation of the unit and produce steam only when needed. Steam pressure is regulated by turning one control. A Servo control automatically adjusts the machine to produce from one-third to full capacity.

Beam Handler Operated By One Man

A beam handler designed so that one man can perform all operations of lifting, transporting, and placing the beam in the loom is being offered by Schmidt Mfg. Co., P. O. Box 560, New Bedford, Mass.

The handler lifts the beam from the floor, slasher, or drawing-in frame without help from a chain fall or hoist. Lifting is done at the beam shaft; so no part of the yarn contacts the truck. Roller-bearing wheels allow the truck to roll easily around sharp corners and narrow alleys.

Adjustable hangers hold harnesses and reeds on the beam handler so that the truck can also be used as a drawing-in frame.

Any beam length within a 20-in. range can be handled by one model. Normal lifting capacity is 800 lb.

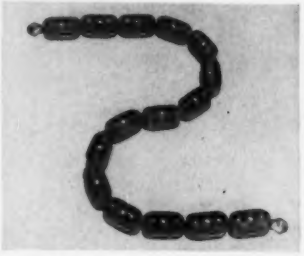
Picker-Lap Uniformity Meter Available Soon

The picker-lap uniformity meter developed at the Institute of Textile Technology, Charlottesville, Va., is to be made available soon for use in conjunction with the new uniformity analyzer being produced by Brush Development Co., Cleveland, Ohio.

The new tester measures inch-to-inch variation in picker laps. Picker laps tested on the electronic lap meter complement other tests on sliver, roving, and yarn.

ITT research has shown that any change in picker-lap weight that continued for 1¼ in. affected card sliver almost to the same proportion that it varied lap weight.

Linked V-Belting Is Leather-Faced



TURNING THIS DOUBLE-V BELT OVER is like having a new belt, on straight drives.

Small-pulley, short-center drives are said to be ideal applications for a linked, fiber V-belting developed by Graton & Knight Co., 348 Franklin St., Worcester 4, Mass. Each link is made of two fiber sections faced with oak-tanned leather. Steel connectors join the sections. The leather segments are V-faced to provide a double bevel that conforms to standard V-belt sheaves.

Spool-drum drives and tape condensers using this new belting are said to have outlasted and outperformed solid leather, laminated, and endless-rubber V-belts.

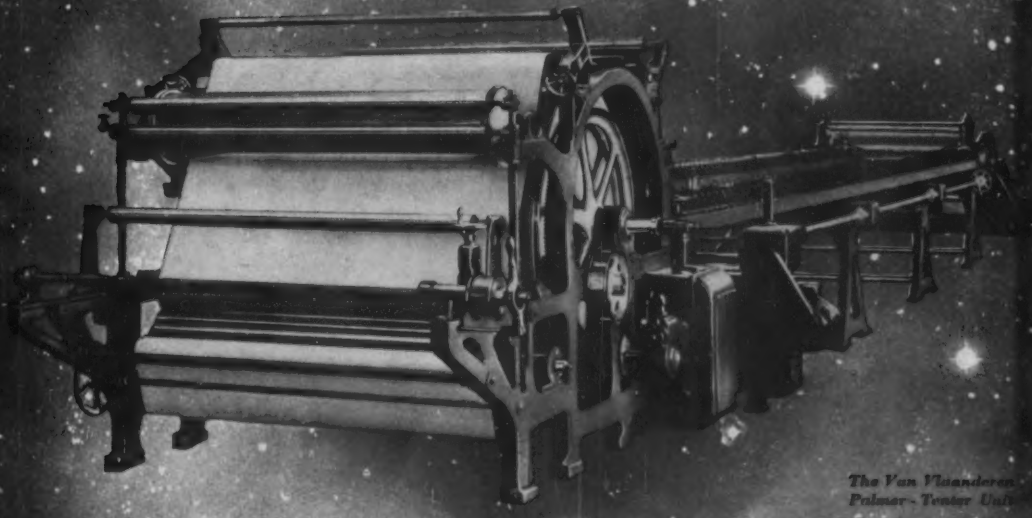
The Future Is Now

In 1902, when Peter Van Vlaanderen made his first machine, scientific developments, which today are accepted as commonplace, were just fanciful dream stuff. Now, at mid-century, electronics, atomic energy and a host of other wonders are accomplished facts.

No less remarkable is the growth of the synthetic textile fibers, now entering into a new phase.

Van Vlaanderen has led the way for nearly fifty years through imaginative design in developing machines for processing modern fabrics. The Palmer-Tenter Unit illustrated is the result of modern developments by our engineers to provide an advanced unit for continuous chemicising, impregnating and dyeing of the new synthetics, rayons and broadgoods of natural fibers. It is of course built to the Van Vlaanderen standard of rugged dependability. Palmer, tenter and padder may also be bought individually.

Ask us to send you full technical data.



The Van Vlaanderen Palmer - Tenter Unit

VAN VLAANDEREN

Van Vlaanderen Machine Company, 370 Straight Street, Paterson 3, New Jersey, U.S.A.

Southern Representatives, Parrott and Ballentine, 610 South Carolina National Bank Bldg., Greenville, S. C.

Cable Address: Vlaanderen, Paterson, U.S.A.

World's largest manufacturers of machinery for processing modern fabrics

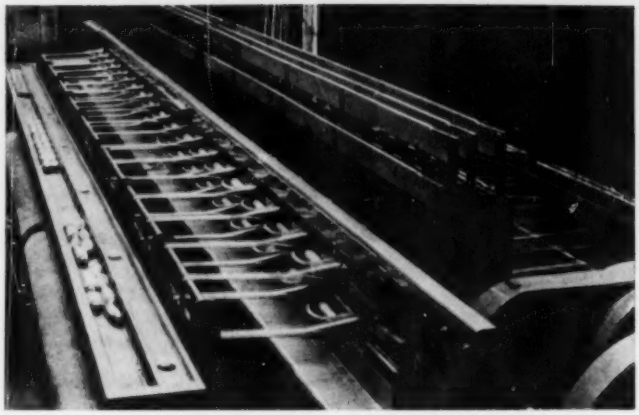
Narrow-Fabric Loom Developed in Holland

A completely redesigned narrow-fabric loom that has no superstructure has been introduced by N. V. Machinefabriek "Breda" Becker en Rueb, Breda, Holland. Harnesses are controlled by a motion located under the machine.

The new loom is all metal and is lubricated entirely by a central lubrication system.

Beat-up of the loom is horizontal, not in the conventional arc. Twelve harnesses can be used. All harnesses can be leveled for drawing-in.

One claim made for the loom is that it will give greater production, not only because of its higher operating speeds but also because the shuttle (25-mm. diameter) holds more filling.



BEAT-UP OF THIS NARROW-FABRIC LOOM is horizontal—not in the conventional arc.

Small Fork Trucks Designed for Trucks and Freight Cars

THIS SMALL LIFT TRUCK can hustle from your shipping department right into a truck or freight car.

A new series of gasoline fork trucks specifically designed for operation in and around highway motor trucks and freight cars has been announced by Yale & Towne Mfg. Co., 11,000 Roosevelt Blvd., Philadelphia 15, Pa. Called the "Trucker" series, the new trucks combine low weight, low overall height, and high maneuverability for operation in close quarters, as in truck bodies.

Available in capacities up to 2,000 lb., the new truck is 68 in. high when the telescopic lift is collapsed. In duplex models, the truck can elevate its forks 54 in. before the secondary channels rise to increase the height. This feature allows two-high stacking inside truck bodies.

All controls on the new fork truck are of the automotive type. Clutch, accelerator, gearshift, and brake are in conventional positions. Controls for hoisting, lowering, and tilting the forks are located close to the steering wheel. The hydraulic brakes also follow automotive practice.

Maximum lift height is 108 in. Speed is 7.5 m.p.h., and lifting speed, empty, is 45 ft. per min.

Dr. Horn Tachometer Again Available in U. S.

GERMAN TACHOMETER has six speed ranges.

The Dr. Horn tachometer, made in Germany, is now being offered in the U. S. by James G. Biddle Co., 1316 Arch St., Philadelphia 7, Pa. The new model has six ranges that cover from 25 rpm. to 30,000 rpm.

The instrument is protected against damage from overspeeding and is said to require little maintenance.

The American distributors have announced that the new model is moderately priced.

Machine Holds and Profiles Screen Printer's Blades

A new device aimed at helping screen printers do a better job has been announced by Cheskova Ltd., Mawdsley St., Bolton, Lancashire, England. With the machine, the printer can adjust the angle that each blade makes with the handles so the same effect can be obtained on both push and pull strokes.

Side brackets of the holder are graduated to facilitate setting the blades. Weights are also variable.

Metal runners on the device guide the tool used for profiling the working edges of the rubber blades. A hand adjustment allows the user to regulate the depth of cut and to crown the blades, if so desired.

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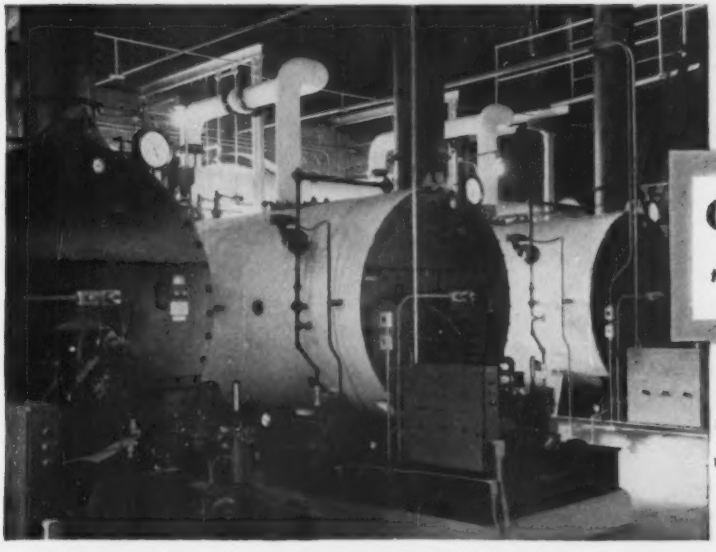

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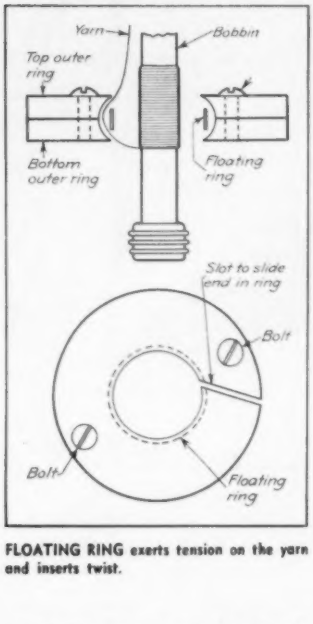
Ring Designed To Eliminate Use of Traveler



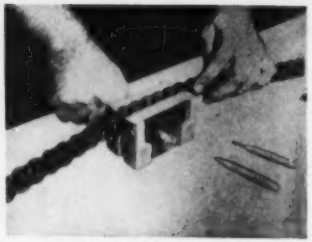
FLOATING RING exerts tension on the yarn and inserts twist.

This ring was invented by Ralph B. Blackwood, 2501 Columbus Circle, Charlotte, N. C., and is patented under Letters Patent No. 2550761, granted May 1, 1951. Here's how the ring works.

The ring is made in three parts. It has a top and bottom outer piece, and when they are bolted together the inner circle is concave in shape. Within this concave circle is a floating ring. This floating ring acts as a tension device for the yarn and inserts the twist. One point on the outer ring is slotted so the end may be pulled into place between it and the floating ring.

This ring has been successfully run on 64 spindles of a twister from 20/2 to 80/2 cotton and synthetic yarns. It has not been tried on spinning yet, but it is believed that it will work successfully there. Use of this ring would eliminate the problem of lubrication on twister rings and the limiting factor of traveler speed on both twisters and spinning. In the tests that have been run so far, the only point at which the cotton contacted the ring was at the bottom of the outer ring. Therefore, it would save much labor now used in changing travelers and in addition should increase operating efficiency for the same reason. Also the elimination of the wear factor would mean that yarn would be spinning more uniformly all the time. Mr. Blackwood has not yet given license to any firms for the manufacture of the ring, although he is considering several proposals.

Special Vise Simplifies Stocking of Roller Chain



WITH THIS NEW VISE, a mill needs to stock only coils or reels of roller chain—not dozens of different lengths.

A new chain vise that is said to make it possible to take apart single- or multiple-strand roller chain easily has been announced by Chain Belt Co., Springfield, Mass. The Baldwin-Rex chain vise is made of forged steel and has hardened jaws that are specially shaped for adapting to various chain sizes.

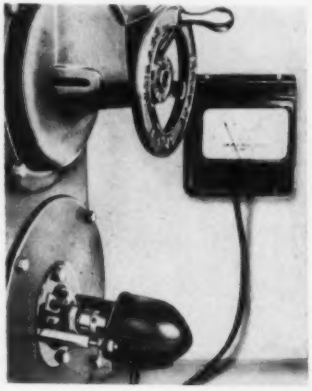
Approximate adjustments can be made before the chain is inserted—clamping is thus done more quickly. The vise is made in two sizes. No. 1 is for single-strand roller chains from ¼- to 1-in. pitch, for double-pitch chains of 1-, 1¼-, and 1½-in. pitch, and for double-strand chains of ½-, ⅝-, and ¾-in. pitch. Chain vise No. 2 is for single-strand chains of 1- through 2-in. pitch and for double-strand chains from 1- to 2-in. pitch.

Electric Tachometer For Reeves Drives

A tachometer for use in inaccessible or remote locations has been developed by Reeves Pulley Co., Inc., Columbus, Ind. The price of the new unit compares with the price of the previously offered mechanical type.

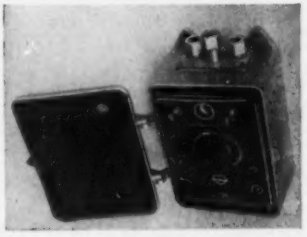
The electric tachometer, which operates on the a.c.-generator principle, can be mounted as far as 300 ft. from the variable-speed drive. The head can be used on drives, with capacities from ¼ to 87 hp.

For most installations, no alteration of any existing parts is necessary. The ability to operate accurately at long distances from the variable-speed drive makes the new tachometer ideal for use with an electric remote control.



THIS ELECTRIC TACHOMETER CAN BE mounted up to 300 ft. from a variable-speed drive.

Chemical Concentrations Automatically Controlled



ACCURACY OF ±3% is possible in conductance measurement and control with this instrument.

A conductivity controller, type E. 7567, has been developed by Mullard Electronic Products, Ltd., Century

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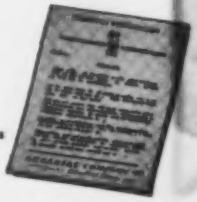
- ☐ Application procedure for all wool dyeing processes
- ☐ Representative to arrange for demonstration



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Arkansas Co. INC.

MANUFACTURERS OF INDUSTRIAL CHEMICALS FOR OVER 45 YEARS
NEWARK, NEW JERSEY

*Patented

House, London WC2, England. The device can automatically control boiler-water condensate, washing solutions, brine concentrations, and caustic solutions.

The new controller operates on the same principle as a conductance-bridge type unit now being used for laboratory work. The unit uses a modified Wheatstone-bridge network that operates at a test frequency of 2.9 kc/s. Electrical process control is accomplished by an amplifier and a relay circuit. A visible or audible signal tells when the ionic concentration of the solution rises or falls from the value predetermined by the machine tender.

Conductance of the solution is kept within the set limits by using the controller relay to add liquid to the solution. Actual conductance at any time may be read from a magic-eye balance indicator and a direct-reading bridge dial on the instrument panel.

New Tractor Designed for Narrow Aisles

HOOKS GRAB THE TRAILER and then the rear wheels of this new tractor lift to throw part of the tractor weight onto the trailer.

A motorized tractor that automatically engages various types of industrial trailers and will permit operation in very narrow aisles has been announced by Yale & Towne Mfg. Co., 11,000 Roosevelt Blvd., Philadelphia 15, Pa. The new tractor can grab the end of a caster-type trailer and make a right-angle turn with the fixed axle of the trailer as the center of the turn.

Called the "Grip-Tow," the tractor, in operation, is driven to the end of the trailer, and a hook on the tractor engages the lower side of the trailer frame. The hook then pulls the trailer into intimate contact with the tractor. Then a pair of secondary hooks grabs the top part of the trailer frame for additional strength.

Finally, the trailing wheels of the tractor lift off the floor so that the rear end of the tractor is supported by the trailer. All this clamping is said to be done in a few seconds.

The tractor can be used with almost any caster-type trailer that has edge that the gripping mechanism of the tractor can get a hold on.

NEW *Dyes* AND *Chemicals*

Blue Acetate Dye Usable On Acetate, Dacron, Dynel

A new blue dye for cellulose acetate fibers has been announced by Tennessee Eastman Co., Kingsport, Tenn. The dye is said to have excellent light fastness and gas fastness. It is known as Eastman Fast Blue GLF Concentrated.

According to the manufacturer, Eastman Fast Blue GLF Concentrated has similar fastness characteristics on Dacron polyester fiber. It is also recommended for use on dynel. It is said to be the first blue acetate dye that exhibits good fastness properties to both light and to gas. It is expected to be used in men's suitings, dress goods, draperies, upholsteries, and other applications where high resistance to both light and gas fading is required.

The dye is recommended for self shades and in combinations with other acetate dyes of exceptional gas and light fastness, such as Eastman Fast Yellow GLF, Eastman Fast Yellow 4RLF, and Eastman Fast Red GLF. The manufacturer recommends that dyebath temperatures of 180 to 200° F. be used to obtain maximum fastness, optimum leveling, and exhaustion. Eastman Fast Blue GLF Concentrated should be dyed with 1% sodium metaphosphate on the weight of the fabric and with ¼ to ½% sodium acid phosphate or tartrate in the dyebath. It is suggested that anionic rather than non-ionic detergents and leveling agents be used.

This dye can be dyed directly onto Dacron with a small amount of carrier in the bath. The manufacturer states that the complete dyeing procedure has been worked out and is available upon request.

White Italian Bentonite Being Imported Again

White Italian Bentonite, a colloidal clay that has been scarce for several years, is again being imported by Whittaker, Clark & Daniels, Inc., 260 W. Broadway, New York 13, N. Y. This firm is the exclusive distributor for the product. The Bentonite will be available in both the high-jell and the low-jell types. It is used as an agent in emulsifying, spreading, suspending, thickening, plasticizing, absorbing, dehydrating, and sizing. It is said to be highly desirable because of its whiteness and lack of impurities.

Olive Vat Color Developed For Defense Use

A new vat dye, Mayvat Olive T Paste, has been added to the line of vat colors manufactured by Otto B. May, Inc., Newark, N. J. Especially designed for defense requirements, Mayvat Olive T Paste is said to be ideal for uniform, duck, and webbing fabrics. The manufacturer states that when this dye is used as the olive component of government O.G.107, O.G.108, and O.D.7 shades, the goods will meet Quartermaster Corps specifications.

The new color is said to be especially fast to light, washing, and chlorine. It is formulated to run on continuous machines for piece goods and package machines for yarn both in pigment and reduced forms.

New Dye Assistant Developed For Cotton

A new dye assistant, Barisol BRM, is announced by Dexter Chemical Corp., Blvd. P. O. Box 1, New York 59, N. Y. This assistant is said to have unequaled sequestering powers for the various pectins and other complex substances normally found in cotton.

The product was first introduced for vat and sulphur dyeing of cottons as a

(Continued on page 262)

Textile America really "cottons" to

The new improved DAYCO COT

with fiber repellence PLUS

The "super" fiber repellence of the new Dayco Cot has millmen all over America talking! Listen: "Drastically cut time-outs for correcting ends-down and lap-ups" . . . "Already outlasted the type of cot we were using, and good for years more service" . . . "They spin perfect yarn right from the go, even on Monday morning startups" . . . "Save time for the mechanics—roll replacement is minimized."

Yes, the new Dayco Cot cuts ends-down and lap-ups, let's you run with minimum down-time. Gives cleaner yarn, too. Spins cotton, wool, blends, synthetic fibers. And for cot life —it even outlasts previous Dayco Cots, and that's going some! For the long pull—man your frames with Daycos for the years ahead. Ask your salesman or: **Dayton Rubber Co., Textile Div., Woodside Bldg., Greenville, S. C.**

Who doesn't "cotton" to cottons filled as nicely as this? Dayco Cots help cotton to blossom a second time in dresses like this for American women.

Dayton Rubber

TEXTILE PRODUCTS FOR BETTER SPINNING AND WEAVING

Pointers FOR SUPERVISORS

What Is Fair Play In WORKER DISCIPLINE?

▶ *If you wonder if you're too tough or too lenient in disciplining workers, check your methods against the standards set up by arbitrators. They say the punishment should fit the crime, the worker has to know about the rules, and you can't just drag out a standing rule that's been ignored for years to use in a specific case. Here are some rules arbitrators use that can help you apply your rules fairly.*

By **PAUL A. KING**, Bigelow-Sanford Carpet Co.

IT'S NOT ALWAYS an easy job to discipline a worker, particularly when it may mean his discharge. You may have haunting doubts that the punishment is too severe—or that you are foolishly lenient. You may even wonder if you're punishing the right fellow.

Each of us wants to do the fair thing but the rub is, What is fair? No supervisor would call himself a labor-relations expert, yet at times he has to act as one.

When it comes to disciplining employees, however, there is one fellow who qualifies for the title of expert. He is the professional arbitrator. He handles dozens of discipline cases in a dozen different industries. A supervisor may handle a handful a year.

The rules that arbitrators announce in their published awards may help you determine what is fair. At least they act as a guide to help you be sure that your decisions aren't off base.

Here are several rules that just about every arbitrator follows in handling discipline cases:

Announce Your Rules of Discipline

Arbitrators will not hold an employee accountable for an infraction unless the employee knew about the rules—or at least should have known about them because they were readily available for his examination.

This requirement may be met by distributing the rules to each new employee. Some companies require the employee to sign for them.

In the eyes of arbitrators, posting the rules on the bulletin board is adequate notice if the bulletin board is set up in a prominent place.

Oral announcement of a particular rule to an employee will hold water if you can prove that the employee heard and understood you.

Be Consistent in Applying Rules

Often you can hand a rule book to the employee, post the rules on the bulletin boards, and still be unable to enforce the rules. This trouble comes up if your company does not consistently enforce its rules. When a company has not enforced its rules, it cannot suddenly begin to do so, arbitrators say. Employees have to be warned about the change in policy. A notice on the bulletin boards or a letter to employees telling them about the new enforcement policy will be sufficient.

A company must also be consistent in enforcing rules for all employees. The minute you make an exception for one employee, you endanger your entire discipline program. Arbitrators have permitted employees to escape otherwise justified punishment simply because the rule was not applied to another employee under similar circumstances. However, show extenuating conditions—a different situation—and you may be able to justify different treatment.

The Punishment Should Fit the Crime

The supreme penalty in any system of plant law is discharge. But arbitrators are very reluctant to apply this penalty. So are supervisors. This penalty is reserved for the very worst offenses, such as stealing. It would not stand up for mere intoxication on the job. If the drunk employee had contact with customers or operated a dangerous machine, discharge might stand up. In a word or two, arbitrators feel that the punishment must fit the crime.

When is a penalty too tough? One way of getting a line on which punishments shall be imposed for which crimes is to see what other companies do. Your company can write to 20 or so companies asking for copies of their rules. Check your rules against the majority.

Here's a point to remember. Don't punish an employee twice for the same offense. Some arbitrators have ruled that if you reprimand an employee, he's had it. You can't, for example, later on suspend him for a day.

Be Sure of Your Evidence

Lawyers talk about hearsay evidence. This kind of evidence is not admissible in a court of law and should be equally inadmissible when it comes to disciplining employees. Don't punish on the basis of what someone heard someone say happened. Get eye witnesses. Talk to them yourself. Jot down their statements.

There seems to be an unwritten law among arbitrators that the more serious the punishment, the better your evidence has to be. One arbitrator who refused to fire an employee for stealing remarked that a discharge for stealing would be a blot on the employee's record that could prevent him from ever getting another job. He demanded more evidence than that presented by the supervisor.

Another thing: Quality of evidence is often more important than quantity. One fellow worker who had

(*Continued on page 258*)

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THIS IS NO. 89 OF A SERIES ON

GETTING THE MOST FROM TWIST[illegible]

Information about twisting designed to show improvements in twisting equipment and new ideas in the twisting operation

DIFFERENT BOBBIN BUILDS ON RING TWISTER Model 10

Two types of packages that can be produced on a ring twister are illustrated in Fig. 1. The straight-wind package, left, and the taper-top package, right, were both produced on the Model 10 Ring Twister.

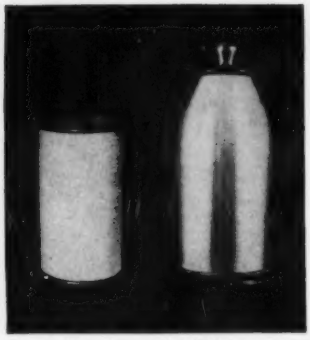

Fig. 1. Two types of bobbins produced on Model 10 Ring Twister: left, straight-wind; right, taper-top.

Straight-wind Bobbins

The straight-bobbin builder mechanism (Fig. 2) consists of a builder lever that is actuated by a regular heart-shaped or uniform-rate traverse cam. The lever is linked to the ring rail by the two chains and pulley segments. As the cam rotates, it causes the builder lever to move up and down. The lever in turn actuates the ring rail. When the uniform-rate cam is used, the length and speed of each stroke of the ring rail remain constant and thus form a straight-wind bobbin.

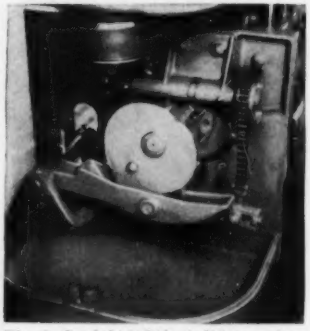

Fig. 2. Straight-bobbin builder mechanism, showing heart-shaped (uniform-rate) traverse cam.

Taper-top bobbins produced on the Model 10 are generally produced with the taper-top builder shown in Fig. 3. The taper-top builder varies the length of the traverse stroke so that the traverses of the ring rail are alternately shortened and lengthened. The shortening and lengthening effect takes place only at the top of the stroke; the ring rail returns to the same point at the bottom of each traverse. Thus a taper is formed at the top of the bobbin.

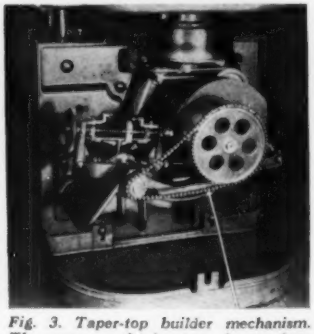

Fig. 3. Taper-top builder mechanism. The same mechanism can be used to produce straight-wind bobbins, with the chain removed.

Two different traverse cams can be used with the taper-top builder.

Spun Yarns

For spun yarns, a regular heart-shaped cam provides a satisfactory build. With the combination of taper-top builder and regular heart-shaped cam, an equal number of wraps is placed on the bobbin during the up and down strokes of the ring rail.

Filament Yarns

When taper-top bobbins of synthetic filament yarns are being produced, a dual-rate cam is recommended. (Although designed primarily to prevent the smooth filament yarns from sloughing, the dual-rate cam also performs satisfactorily when processing spun yarns.)

When the dual-rate cam is used, the speed of the ring rail on the downstroke is faster than on the up stroke, the ratio being two to one. This, of course, causes twice as many wraps to be placed on the bobbin during the up stroke. Yarn wraps placed on the bobbin in this manner cross over wraps in the previous layer at a greater angle than they do when a uniform-rate cam is used. This tends to hold the previous layer of yarn more firmly in place and prevents sloughing. The taper-top bobbin produced with the dual-rate cam has a slightly longer taper than one produced with the regular heart-shaped or uniform-rate cam.

October 1951

23.1.2

WINDING AND TWISTING MACHINERY FOR NATURAL AND SYNTHETIC YARNS

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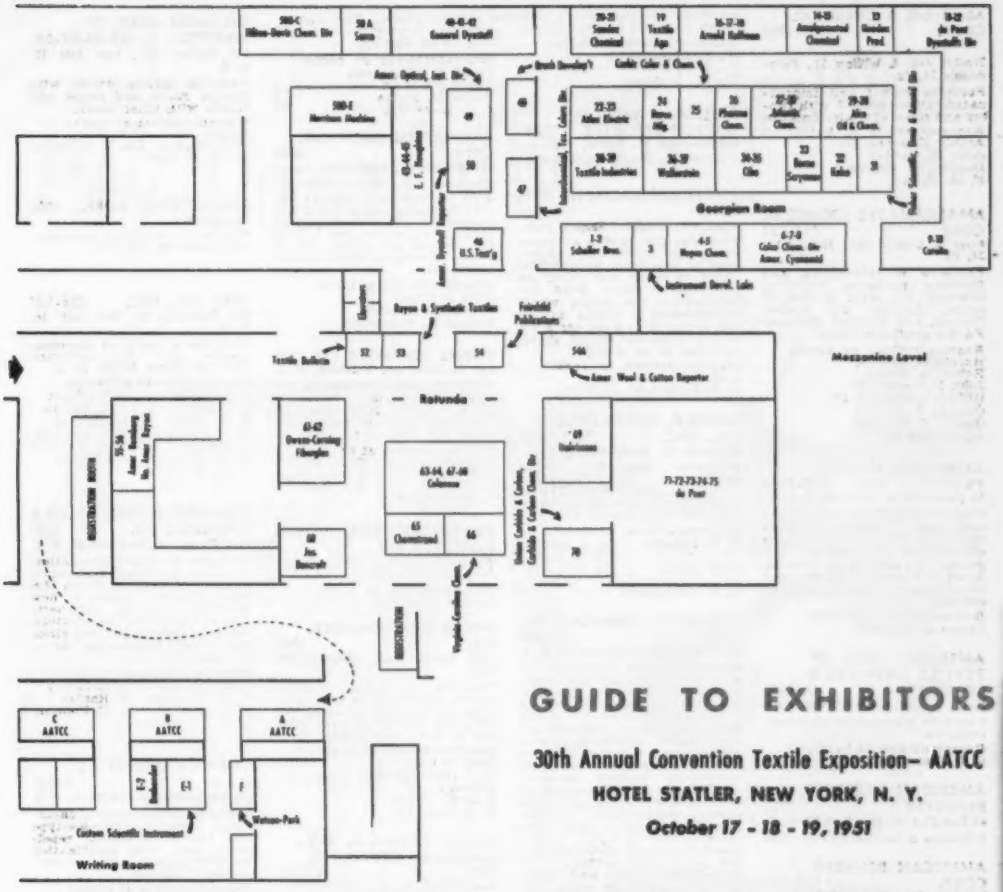

GUIDE TO EXHIBITORS

30th Annual Convention Textile Exposition– AATCC

HOTEL STATLER, NEW YORK, N. Y.

October 17 - 18 - 19, 1951

THE largest textile exhibition in the history of the American Association of Textile Chemists & Colorists will be the 1951 Show at the Hotel Statler, New York, Oct. 17, 18, and 19, during the 30th annual AATCC national convention.

Hours of the show will be 10 A.M. to 10 P.M. on Wednesday and Thursday, Oct. 17 and 18; and 10 A.M. to 5 P.M. on Friday, Oct. 19.

The accompanying floor plan and "Guide to Exhibitors" list the record number of firms—more than double that of last year—who will display chemical products and equipment of interest to wet-processors. Note that the exposition is divided into two sections: one on the mezzanine level of the Statler and the other in the Penntop Room on the 18th floor. TEXTILE WORLD looks forward to seeing its friends at its booth (106, 119) in the Penntop Room.

GUIDE TO EXHIBITORS—30th Annual Convention—AATCC

ALCO OIL & CHEMICAL CORP. (29-30)

Trenton Ave. & William St., Philadelphia 34, Pa.

Features coated and impregnated fabrics treated with rubber and other specialty finishes.

Representatives at booth:
Arthur E. Jones, Jr.
John W. Jordan
Donald W. Robinson
F. M. Tolin

AMALGAMATED CHEMICAL CORP. (14-15)

Rorer & Ontario Sts., Philadelphia 34, Pa.

Features wet-processing and finishing products, including Evanate for level dyeing of nylon, Amidye for dyeing Dacron, and Filaseal Softener FA for synthetic fibers.

Representatives at booth:
Harold B. Dohner
Robert A. Bruce
John M. Jester, Jr.
Hillary Robinette, Jr.
Charles E. Seel
George C. Harkins
Alton Siddons

AMERICAN ANILINE PRODUCTS, INC. (108-109)

50 Union Square, New York 3, N. Y.

Features dyestuffs and textile specialties, including Amanil naphthols and Stabilon for the elimination of crocking. Depuma, a new anti-foaming agent for use in textile wet processing, will also be demonstrated.

Representative at booth:
James J. Marshall

AMERICAN ASSN. OF TEXTILE CHEMISTS & COLORISTS (A-B-C)

Lowell Textile Institute, Lowell, Mass.

Features association research projects.

Representative at booth:
G. R. Thompson

AMERICAN DYESTUFF REPORTER (50)

44 East 23rd St., New York 10, N. Y.

Features a textile publication.

AMERICAN BEMBERG CORP. (55-56)

261 Fifth Ave., New York 16, N. Y.

Features various types and weaves of fabrics made from Bemberg and Narco yarns, as well as cones and skeins of yarn.

Representatives at booth:
J. C. Fortune — W. Forsthoff
H. G. Spitzer — J. B. Dunlop
N. Polonsky — G. Monk
R. Devine — J. Furr
M. Phinney — V. Bex
J. Lewy — J. Ashley
F. Love — E. Bensing

AMERICAN OPTICAL CO., INSTRUMENT DIV. (49)

Eggert & Sager Rds., Buffalo 15, N. Y.

Features optical and scientific instruments: a new rapid-scanning spectrophotometer particularly adaptable to studying rapid color changes; a new low-cost P45 polarizing microscope with built-in light source for process control of synthetic fibers and chemical analysis; and the AO phase microscope for examination of synthetic fibers.

Representatives at booth:
O. E. Schaefer — W. E. Folland
A. R. Silberg — J. V. Cockin

AMERICAN POLYMER CORP. (87)

101 Foster St., Peabody, Mass.

Features synthetic resins for textile treating; permanent finishing of cottons, nylon sizes, synthetic acrylic gums, and rayon sizes will be emphasized.

Representatives at booth:
W. L. Abromowitz
Dr. S. J. Baum
Dr. H. Nadius

AMERICAN WOOL & COTTON REPORTER (54A)

286 Congress St., Boston, Mass.

Features a textile publication.

ANDERSON MACHINE SHOP, INC. (94)

Brook Rd., Needham Heights, Mass.

Features the Pacific evenness tester for measuring and recording evenness, weight, and count of sliver and yarn. An extra-heavy sliver head developed for the tester, which incorporates a single groove for testing 4 to 8 oz. per 8 yd. or 5 to 10 lb. per 100 yd. silver, will also be on display.

Representatives at booth:
J. G. Anderson
A. G. Anderson

ARNOLD, HOFFMAN & CO., INC. (16-17-18)

55 Canal St., Providence, R. I.

Features dyestuffs, textile auxiliaries, and industrial chemicals. Emphasis will be on Alkoquinone wool dyes, Ahcovat dyes and Solacet colors.

Representatives at booth:
T. H. Roberts — A. C. Merrill
W. C. Cobb — W. T. Clarke
L. G. Tubbs — R. Tull
D. L. Turner
E. R. Herbertson

ATLANTIC CHEMICAL CO., INC. (27-28)

2072 Smith St., Centredale 11, R. I.

Features textile chemicals and dyestuffs, including newly developed products for processing of government fabrics to meet specifications. Products to be shown are: new radioactive textile auxiliaries; antistatic agent; a water-repellent and fire-retardant one-bath compound; acetate dye-dispersing agent; water-repellent and mildewproofing one-bath agent; water-phase metallic printing binders; a new mercerizing-wetting agent; and a newly developed resin modifier for permanent stiffening in urea-formaldehyde and melamine-formaldehyde resin finishing.

Representatives at booth:
James C. Shore
Joseph E. Weldon
John A. Fanning

ATLAS ELECTRIC DEVICES CO. (22-23)

361 W. Superior St., Chicago 10, Ill.

Features accelerated testing equipment, including Fade-Ometer for light fastness; Launder-Ometer for wash-fastness, equipped with new Inconel specimen containers; a new Accelerotor for wet- and dry-abrasion and rapid wash-fastness tests; and a scorch tester for chlorine-retention tests.

Representatives at booth:
John W. Lane
J. E. Norton
Fred Schlayer
Leo I. Monaghan

JOSEPH BANCROFT & SONS CO. (60)

Wilmington, Del.

Features all types of "Everglaze" fabrics.

Representatives at booth:
George J. Forrest
Sanford P. Young
Lola A. Martin
Jacqueline Decker

BARCO MFG. CO. (24)

1801 Winnemac Ave., Chicago 40, Ill.

Features swivel, flexible-ball, and swing joints. The new type-IB revolving joint will also be on display.

Representatives at booth:
David R. Whitehead
Grady Johnston
Frank M. Moore
J. O. Heyworth

BERSWORTH CHEMICAL CO. (85)

875 Waverly St., Framingham, Mass.

Features the effect of Versene-type complexing agents in textile dyeing and general wet processing. New sequestering agents for inactivating ions in the normal pH range and in dilute to concentrated caustic solutions.

Representatives at booth:
John J. Singer
George H. Rhodes
Ronald K. Bersworth

BORNE SCRYMSER CO. (33)

632 So. Front St., Elizabeth, N. J.

Features textile processing oils and compounds, including Meon, Minerol, Minotints, and Tintinols. Albrecht ring lubricants will also be featured.

Representatives at booth:
S. Merlo — W. E. Smith
C. Kozoris — W. M. Dynes
D. Epstein — R. G. Keppler
L. D. Barta, Jr.

BRABENDER CORP. (E-2)

Rochelle Park, N. J.

Features control and laboratory instruments.

Representative at booth:
Arthur Hartkopf

BRUSH DEVELOPMENT CO. (48)

3405 Perkins Ave., Cleveland 14, Ohio

Features recording instruments, including a new BL-314A uniformity analyzer for the measurement of yarn, roving, or sliver uniformity.

Representatives at booth:
Eugene Cahn
M. J. Lichtenstein
Robert Asen
A. J. W. Novak
E. M. Hensley

CALCO CHEMICAL DIV., AMERICAN CYANAMID CO. (6-7-8)

Bound Brook, N. J.

Features fast dyes.

CARBIC COLOR & CHEMICAL CO., INC. (25)

451-453 Washington St., New York 13, N. Y.

Features Carbic textile dyestuffs and chemicals.

Representatives at booth:
Carl W. Kuhl II
Thorwald Larson
Dyer S. Moss
Edmond A. Lutz
Fred Gonnerman
Nathan W. Akst

CARBIDE & CARBON CHEMICALS CO., DIV. OF UNION CARBIDE & CARBON CORP. (70)

30 E. 42nd St., New York 17, N. Y.

Features dynel fiber in all forms, dyed and finished; new fabrics, both all-dynel and blends; and new dyeing and finishing techniques.

Representatives at booth:
J. E. Burke — T. P. Mulligan
R. W. Gaines — H. S. Porter
F. C. King — A. L. Snyder

CATALIN CORP. OF AMERICA (9-10)

1 Park Ave., New York 16, N. Y.

Features chemicals, finishes, and resins.

Representative at booth:
R. A. Woodward

CELANESE CORP. OF AMERICA (63-64-67-68)

180 Madison Ave., New York 16, N. Y.

Features fabrics woven with acetate yarns and staple and blends with other fibers.

Representatives at booth:
Robert Burns — G. C. Ward
P. C. Duggan — Dr. V. S. Salvin
Dr. A. F. Tesi

CHEMSTRAND CORP. (65)

Decatur, Ala.

Features fabrics and merchandise made of Acrilan.

CIBA CO., INC. (34-35)

627 Greenwich St., New York 14, N. Y.

Features a model of the company's new manufacturing plant at Toms River, N. J.

Representatives at booth:
S. I. Parker — G. Wiseman
J. P. Bauer — G. L. Battye
F. F. Jacobs — H. Mullner
M. G. Stern — E. L. Caswell
G. Walsh — R. T. McGuire
E. P. Ward — J. Harding
W. H. Kieffer

COMMONWEALTH COLOR & CHEMICAL CO. (89)

3240 Grace Ave., New York 69, N. Y.

Features chemical specialties: dye and bleaching assistants, a new permanent finish for nylon hosiery, soaps, a new alkaline detergent, softeners, water repellents, penetrators, special finishing oils and sizes, and a new emulsifying agent for essential oils.

Representatives at booth:
C. M. Robbins — A. E. Skead
O. W. Bertram — F. Rhodes
M. W. Mueller — G. E. Fleming
G. D. Fronmuller

THE CRAVENETTE CO., U.S.A. (103)

8th and Madison Sts., Hoboken, N. J.

Features water-repellent chemicals, including durable-type and renewable water repellents, and new combination water-repellent and mildew-resistant agents.

Representatives at booth:
Robert C. Hunsinger
Sam S. Sinatra
Fred Barbaro

CUSTOM SCIENTIFIC INSTRUMENTS, INC. (E-1)

541 Devon St., Arlington, N. J.

Features testing equipment: universal wear tester, flammability tester, high-speed angle centrifuge, and flex machine.

Representatives at booth:
R. J. Novotny — J. Eaglesham
H. Bultman, Jr.

DEXTER CHEMICAL CORP. (79B)

819 Edgewater Rd., New York 59, N. Y.

Features an unusual historical display of rare important writings relating to chemistry and textile processing. The exhibit will, for the most part, record the development of chemistry, as well as the art and science of dyeing and bleaching through the centuries.

Representatives at booth:
Joseph B. Evans
Sidney M. Edelstein
Leonard Sleasinger
Axel W. Mack
Eugene P. Henley
Dudley B. Setzler
Mortimer Bayer
Phillip Swartz
Adrian S. Price

Hey - Come On To My House

Come on to my house, my house—
I'm gonna make it worth your while,
Show you how to make more money
In the good old Twitchell style.
Woolens, worsteds, rayons, cottons—
There's a Twitchell brand for you!
Get better quality, higher yields
Come on to my house . . . please do!

Come on to my house, my house—
I'm gonna give you a peek
At things not yet unveiled
That you must surely seek.
Development will give you clues
To products which you'll say
Are just what you've been looking for
So, come on to my house, eh!

Come on to my house, my house—
And see my collection of oils
To make you lucky with cards
And reduce your number of noils,
For coning, soaking, rewetting—
To help you twist and spin!
The only request we make . . .
Come on to my house, walk right in!

Come on to my house, my house—
It's old and tried and true,
The scene of many triumphs
In making things brand new.
But better by far than tradition
Is the loyalty of friends like you.
So here's our sincere invitation.
Come on to my house, please do!

Emery *Twitchell Textile Oils*

EMERY INDUSTRIES, INC.
Carew Tower, Cincinnati 2, Ohio

Branch Offices:
3002 Woolworth Bldg., New York 7, N.Y.
401 N. Broad St., Philadelphia 8, Pa.
187 Perry St., Lowell, Mass.
221 N. LaSalle St., Chicago 1, Ill.
420 Market St., San Francisco 11, Calif.
Export: 5035 RCA Bldg., New York 20, N.Y.
Warehouse stocks also in St. Louis, Buffalo and Baltimore

GUIDE TO EXHIBITORS—30th Annual Convention—AATCC

DOW CORNING CORP. (83-84)
Midland, Mich.

Features DeCetex 104, a silicone water-repellent treatment for fabrics; silicone oil and grease lubricants; and silicone (Class H) electrical insulation.

Representatives at booth:
F. M. Dennett — N. C. Foster
C. E. Gibson — R. E. Knopf

E. F. DREW & CO., INC. (86)
15 East 26th St., New York 10, N. Y.

Features processing oils, chemicals, and finishes.

Representative at booth:
J. P. Redston
K. W. Hartman
H. Carman
S. Cohen
H. A. Crovo
W. Cummings
L. W. Davis
W. H. Kirkpatrick
W. Meyers
A. Troy
Dr. G. Zinsalian

E. I. DU PONT DE NEMOURS & CO., INC., DYESTUFFS DIV. (11-12)
Wilmington 98, Del.

Features fine chemicals and dyestuffs, including finishing compounds, Avitone softener, Zeset stabilizing resin, Zelan and Aridex water repellents. The development of colors for Orlon acrylic fiber and Dacron polyester fiber will be illustrated.

Representative at booth:
C. B. Harris

E. I. DU PONT DE NEMOURS & CO., INC., RAYON DEPT. 71-72-73-74-75
Wilmington 98, Del.

Features the fashion and technical aspect of Du Pont textile fibers: viscose rayon, acetate, nylon, Orlon acrylic fiber, and Dacron polyester fiber.

Representative at booth:
B. J. Clark

EMERY INDUSTRIES, INC. (93)
Carew Tower, Cincinnati 2, Ohio

Features oils for wool, worsted, cotton, and rayon, and a complete line of fatty acids and derivatives. Service to customers and territory coverage, as well as important processing steps for various classes of fibers, will also be illustrated.

Representatives at booth:
R. F. Brown — J. W. Ritz
V. W. Colby — W. A. Colby
N. A. Ruston — J. P. Kramer
W. T. Meinert — R. J. Roberts
W. H. Shields — J. P. Clancy
H. T. Buckley — T. L. Reilling
H. D. Armitage — A. C. Fusaro
J. M. Washburn, Jr.

FAIRCHILD PUBLICATIONS (54, 79A)
7 East 12th St., New York, N. Y.

Features textile publications.

FISHER SCIENTIFIC CO., EIMER & AMEND DIV. (31)
633 Greenwich St., New York 14, N. Y.

Features laboratory apparatus for the textile chemist. The Fisher Senior Titrimeter, Electrophotometer, Filtrator, Isotemp bath, Electroviscometer, and Tissuemat will be shown.

Representatives at booth:
G. Amos — S. A. Gunsauge
T. W. Brady — E. S. Todaro
W. E. Eggo — G. C. Lord

GASTON COUNTY DYEING MACHINE CO. (116)
Stanley, N. C.

Features a 1-lb. laboratory dyeing machine and a combination single-package raw-stock and laboratory extracter with automatic controls for high-temperature dyeing and yarn steaming.

Representatives at booth:
G. H. Hacker — G. Lindner
G. G. Hacker

GEIGY CO. (81)
89 Barclay St., New York 8, N. Y.

Features dyestuffs and textile auxiliaries.

Representative at booth:
H. A. Keenan

GENERAL DYESTUFF CORP. (40-41-42)
435 Hudson St., New York 14, N. Y.

Features new developments of dyestuffs and textile chemicals with emphasis on fast colors. Samples of commercial production from the recently developed hot-oil process will be shown.

Representatives at booth:
J. R. Bonnar
C. A. Bergman
P. J. Choquette
Dr. C. Z. Draves
Dr. H. E. Hager
E. Hansen
J. H. Hennessey
Dr. H. Luttringhaus
L. S. Thompson

DAVID GESSNER CO. (80)
41 Fremont St., Worcester, Mass.

Features information on textile finishing machinery, particularly a tensionless dryer.

Representatives at booth:
J. P. Franklin — R. C. Franklin
James Barr — R. L. Bernard

GLASCO EQUIPMENT CORP. (77)
2 Wait St., Paterson 4, N. J.

Features dyeing machinery and equipment, including dyejig enclosures, dyehouse trucks with complete drainage, dye tubs and becks for synthetics, dry cans, color pails, containers, and mixing tanks.

Representatives at booth:
M. G. Peck — C. G. Weichman

JOHN HEWSON CO. (104)
106 Water St., New York 5, N. Y.

Features electronic high-speed TAKK static-control systems in operation for the processing of all types of fabrics, particularly synthetics and blends with synthetics. Clinic discussions of actual static-control problems in various textile processing operations will be carried on.

Representatives at booth:
J. K. Hewson — J. Bone
W. E. Krause — D. Stone
J. F. Donnelly — H. Bradbury

HILTON-DAVIS CHEMICAL CO. DIV. (50B&C)
2235 Langdon Farm Rd., Cincinnati 13, Ohio

Features naphthols, diazotized and stabilized fast-color Spectrolene bases, fast-color salts, acid and basic dyes, and optical bleaches.

Representatives at booth:
N. S. Knaggs — W. B. Uhler
G. N. Nickles — E. R. Roper
A. S. Davis — K. L. Dorman
C. H. Ratterree, Jr.
P. C. Blackman

E. F. HOUGHTON & CO. (43-44-45)
303 West Lehigh Ave., Philadelphia 33, Pa.

Features new surface-active wetting agents and detergents, and textile processing oils and lubricants.

Representatives at booth:
C. B. Kinney — H. E. Peterson
H. B. Walker — O. R. Kerst
J. R. Clendenning — O. H. McClay

INSTRUMENT DEVELOPMENT LABORATORIES (3)
163 Highland Ave., Needham Heights 94, Mass.

Features Color-Eye color-measuring instrument and special accessories for production control of color in textile processing.

Representative at booth:
A. R. MacDonald

INTERCHEMICAL CORP., TEXTILE COLORS DIV. (47)
150 Wagaraw Rd., Hawthorne, N. J.

Features textile-coloring materials, including Aridye pigment colors for printing and dyeing, Interchem acetate dyes, Arigen dyes, and Interchem Copper 8 dispersion.

ITALVISCOSA (69)
689 Fifth Ave., New York 22, N. Y.

Features fibers, yarns, and fabrics from Italy.

Representatives at booth:
Angelo Donini
Gino Mondini
J. John Lawler
Frank Perutz

KELCO CO. (32)
31 Nassau St., New York 5, N. Y.

Features Keltex print-paste thickener. Printing of directs, rapidogens, indigosols, and vats on cotton, rayon, and cotton-rayon blends; acid colors on silk and acetate; and basic colors on acetate fabrics will also be emphasized, as well as the printing of camouflage nylon with acid and direct dyes.

Representatives at booth:
William Naef
Francis Habersberger
I. L. Blanchard — A. K. Suisselin
J. J. Sullivan — G. W. Nichols

MACBETH CORP. (100)
P. O. Box 950, Newburgh, N. Y.

Features laboratory and color-matching equipment.

Representatives at booth:
Norman Macbeth
Warren B. Reese
John L. Ayer

MONSANTO CHEMICAL CO., MERRIMAC DIV. (110-111)
Everett Station, Boston 49, Mass.

Features Resloom, Merlon, and Syton resin-treating agents for finishing textiles.

Representatives at booth:
C. L. Jones — M. J. Scott
E. Greene

MORRISON MACHINE CO. (50D&E)
1171-1225 Madison Ave., Paterson 3, N. J.

Features new high-pressure laboratory Williams unit, designed for 50-lb. steam pressure to meet the special pressure requirements of hot-oil dyeing, and equipped with 3-roll Microset padder and 2-roll nip. Fabric samples dyed by this process will also be on display.

Representatives at booth:
J. L. Morrison
J. R. Morrison
J. C. Morrison
John Kreeft
A. V. Caporossi
Harold Lacey
C. W. Curts

NATIONAL ANILINE DIV., ALLIED CHEMICAL & DYE CORP. (98-99)
40 Rector St., New York 6, N. Y.

Features dyestuffs and detergents. A special display of the M. D. C. Crawford collection of pre-historic dyeings by the Incas and Aztecs, some dating as far back as 800 B. C., contrasted with exclusive modern prints by some U. S. manufacturers, will also be shown.

Representatives at booth:
C. C. Knights — F. Ihlenburg
R. F. Holoch — R. Robertson
W. Ferrazano — E. J. Allard
R. Hoffman — E. W. Camp
O. M. Morgan — W. Barker
A. J. Anderson
L. H. Winnell
C. H. Ludders
A. E. Sampson

NATIONAL MILLING & CHEMICAL CO. (107)
4601 Nixon St., Philadelphia 27, Pa.

Features soaps, detergents, and specialties, with particular emphasis on products recently developed for the processing of synthetic fibers.

Representatives at booth:
Lester M. Rosenberger
W. R. Harris — J. J. Tomalino

NATIONAL STARCH PRODUCTS, INC. (82)
270 Madison Ave., New York 16, N. Y.

Features prints and fabrics treated with Amberflo; Ambertex; Flotex; and Nufilm, a new product for use in warp sizing and finishing.

Representatives at booth:
J. F. Fitzgerald
H. C. Olson
H. M. Smith
W. H. Stone
I. L. Dowdee
E. J. Maslanka

NOPCO CHEMICAL CO. (4-5)
First and Essex Sts., Harrison, N. J.

Features antistatic agents for processing natural and synthetic fibers.

Representatives at booth:
Walter B. Morehouse
Walter E. Brewer
L. E. Rossiter
Travis V. Rankin
C. E. Elphick
William J. Gavin
D. S. Rion
R. B. Macintyre
Al M. Hartley

NORTH AMERICAN RAYON CORP. (55-56)
(See American Bemberg Corp.)

NUODEX PRODUCTS CO., INC. (13)
830 Magnolia Ave., Elizabeth 7, N. J.

Features textile fungicides to give mildew and rot resistance to textile fabrics and fibers to meet government specifications. An abstract of over 90 government specifications requiring fungicides will also be available. New standardized solubilized Copper 8 Quinolinolates, Quindex and Quindex WR will also be shown.

Representatives at booth:
Arthur Minich — Milton Goll
Harold M. Johnson

ONYX OIL & CHEMICAL CO. (95)
190 Warren St., Jersey City 2, N. J.

Features urea-formaldehyde crushproof-finish resins.

Representatives at booth:
Leon P. Brick
Albert R. Jenny
Alexander C. Mackey
Emil W. Peters
Philip E. MacLean
R. Allan Watson
J. Walter Huber
Malcolm P. Coulman
John E. Trezise
William S. Trezise
Clifford R. Smith

OWENS-CORNING FIBERGLAS CORP. (61-62)
16 East 56th St., New York 22, N. Y.

Features Fiberglas decorative fabrics. Finishing and printing of Fiberglas, as well as improved dyeing techniques, will be emphasized.

Representatives at booth:
W. F. Colton
H. E. Mahler
R. B. Caroselli

"light soaping is enough!"

—TO RINSE PRINTING THICKENER OUT COMPLETELY

AMBERFLO, a highly soluble printing thickener, deposits a soft print. Light washing rinses it out quickly. Easily. Completely. Using tap water. Result? Happier production men. And fabrics that warm a fashion designer's heart with their softness . . . sparkling color . . . finer hand and body.

AMBERFLO eliminates cooking, cooling and expensive mixing equipment. Simply blend it with chemicals and water. In a few minutes, the "color" is ready. Splitting is minimized on "Sheers" and other fragile fabrics, because it deposits a smooth, pliable film. Color yield is higher. Penetration and detail are excellent.

AMBERFLO is recommended for vat, rapidogen, direct, acid and acetate colors. Also white discharge.

National Starch Products,
270 Madison Avenue, New York 16, N. Y.

National
STARCH PRODUCTS

VISIT US AATCC
BOOTH 82

We want to know more!

We're interested in AMBERFLO—National's easy-rinsing, ready-for-use printing thickener.

☐ *We want more technical data.*
☐ *We'd like a plant demonstration.*

Name _____ Title _____
Company _____
Address _____
City _____ Zone _____ State _____

GUIDE TO EXHIBITORS—30th Annual Convention—AATCC

PHARMA CHEMICAL CORP. (26)
175 Fifth Ave., New York, N. Y.
Features dyestuffs and intermediates.
Representative at booth:
J. J. Schwager
Dr. Eugene A. Markush
I. Matthew Buckholtz
Julius Miller
Oscar K. Schwarz

RAYON & SYNTHETIC TEXTILES (53)
303 Fifth Ave., New York 16, N. Y.
Features a textile publication.

RICHMOND OIL, SOAP & CHEMICAL CO., INC. (101)
1041 Frankford Ave., Philadelphia 25, Pa.
Features chemical specilties, including Ronyl Duller S, an emulsion duller for nylon; Scour Bleach #2 for synthetic fibers; Richonic #33 non-ionic scour for worsteds; and Roxopen #100 penetrant.
Representatives at booth:
William Alkus
Morton W. Levi
Henry M. Rubin
William Kamarek
John W. Schenkel
George Kantner

ROHM & HAAS CO. (114-115)
Washington Square, Philadelphia 5, Pa.
Features fabrics treated with Triton X100, a desizing, scouring, bleaching, and dyeing agent; and Rhomite RI crush-resistance agent.
Representatives at booth:
C. M. Clevenger
A. K. Haynes
J. M. Schandler
R. G. Thomas

ROYCE CHEMICAL CO. (79)
Carlton Hill, N. J.
Features textile chemicals, with emphasis on desizing enzymes and newly developed high-temperature powder and liquid enzymes and rapid wetting agents.
Representatives at booth:
A. J. Royce — W. Fayssoux
H. C. Royce — A. Finley
R. L. Jones — R. S. Griffith
P. J. Wood — I. J. Royce
W. Brown

SANDOZ CHEMICAL WORKS, INC. (20-21)
61 Van Dam St., New York 13, N. Y.
Features dyes, textile chemicals, and finished fabrics. Newly developed dyestuffs include Velanol NB, for dyeing Dacron, and Sandopan TFL, a new surface-active agent.
Representatives at booth:
C. H. A. Schmitt
R. A. Lindenmaier
Walter Taylor
Herman L. Schwarz
Frank J. Casey
Alfred Carbone
Charles Saalfrank
Clifford Wertzhern
Henry Rollins

SARCO CO., INC. (50A)
350 Fifth Ave., New York 1, N. Y.
Features indicating temperature controllers for dyeing and wet finishing, temperature control for dryers, and draining and air-venting equipment for dry cans.
Representatives at booth:
A. Milnes — D. Roland
J. Thompson — M. J. Marion

SCHOLLER BROS., INC. (1-2)
Collins & Westmoreland Sts., Philadelphia 34, Pa.
Features textile soaps, softeners, sulphonated oils and finishes, and fabrics treated with these products. Dura Beau "S", a new finish compounded of a complex resin base and type-8 nylon, for increasing snag resistance and giving rapid wettability to nylon hosiery, will also be shown.
Representatives at booth:
E. S. Atkinson — L. M. Boyd
J. F. Noble — H. L. Frost
E. J. Fitzgerald, Jr.
William Jackson, Jr.
F. C. Scholler

SEYDEL-WOOLLEY & CO. (105)
748 Rice St., N. W., Atlanta, Ga.
Features wet-processing chemicals and samples of cloth finished or treated with them.
Representatives at booth:
Paul Seydel
David Meriwether
Carl R. Blumenstein

ALEXANDER SMITH, INC. (78)
Yonkers 1, N. Y.
Features Textralizing, a method of imparting permanent crimp to fibers on a commercial basis; and Harristrip, a process for stripping color from dyed wool without damage to essential fiber properties.
Representatives at booth:
Dr. Ernst Wolff
E. Mersereau — George Vesch

SMITH, DRUM & CO. (112-113)
432 West Allegheny Ave., Philadelphia 33, Pa.
Features dyeing and finishing equipment, with a newly developed high-temperature dyeing machine on display.
Representatives at booth:
Harry S. Drum
John P. G. Patton
William C. Dodson
Robert N. Smith
Albert March

SOCONY-VACUUM OIL CO., INC. (120-121)
26 Broadway, New York, N. Y.
Features industrial lubricants, and petroleum process products.

SOUTH FLORIDA TEST SERVICE (102)
4201 N. W. Seventh St., Miami 34, Fla.
Features illustrations of exposure facilities, test samples on exposure at company's inland proving grounds and salt atmospheric base, and instrumentation for measuring and recording solar radiation, both direct and under glass.
Representatives at booth:
Earl M. DeNoon
Warren W. Smith

STANDARD FABRICATORS, INC. (92)
355 Walton Ave., Bronx, N. Y.
Features package-dyeing, extracting, and drying equipment, and a complete line of dye spindles, perforated tubes, and cones. The new Stienen-Obermaier high-speed system of extracting and drying will be demonstrated with a pilot-plant unit, and package dyers are invited to bring any commercial wound package for a demonstration of the new system.
Representatives at booth:
E. A. Stienen — C. Carnoy
R. G. Stevens — G. T. Kreis
G. Haag

TEN-CO MACHINE CO. (88)
131 Oliver St., Paterson, N. J.
Features a miniature working model of a tensionless continuous dye beck, stainless-steel dolly, and dyehouse truck.
Representative at booth:
Roger Horelbeke

TENNESSEE-EASTMAN CORP. (96-97)
10 East 40th St., New York 16, N. Y.
Features acetate dyestuffs and Estron acetate yarn and staple. Newly developed Eastman GLF series of dyestuffs, which provides a complete line of acetate colors with excellent fastness to gas and light, will be announced.
Representatives at booth:
Garry King
William Cummins
Frank Ruddock
Carl Rutherford
F. L. Bume
Duncan G. Carmichael

TEXTILE AGE, INC. (19)
22 West Putnam Ave., Greenwich, Conn.
Features a textile publication.

TEXTILE BULLETIN (52)
Charlotte 1, N. C.
Features a textile publication.

TEXTILE INDUSTRIES (38-39)
806 Peachtree St., N. E., Atlanta, Ga.
Features a textile publication.

TEXTILE WORLD (106, 119)
330 West 42nd St., New York 18, N. Y.
Features a textile publication.
Representatives at booth:
E. D. Fowle — A. W. Fisher
Wm. Buxman — William Dall
F. M. Thomas — H. C. Harvey
W. A. Newell — John White
R. C. Scott

U. S. TESTING CO., INC. (46)
1415 Park Ave., Hoboken, N. J.
Features testing equipment, including AATCC flammability tester and gas-fading chamber. Details on mothproofing compounds and the use of radioactive isotopes in evaluating dyestuffs will be available.
Representatives at booth:
Cameron Baker
Arthur Kellner
Paul Vomvouras

VENANGO ENGINEERING CO. (125)
G and Lycoming Sts., Philadelphia, Pa.
Features textile dyeing machinery.
Representatives at booth:
C. Harry McCandless
A. Robertson

VIRGINIA-CAROLINA CHEMICAL CORP. (66)
401 East Main St., Richmond 8, Va.
Features Vicara fiber and fabrics and apparel, knitted and woven, with Vicara in the blend.
Representatives at booth:
John H. Karrh
Jesse F. Yeates
Randall Hagner
Lee B. Whitcomb

VIRGINIA SMELTING CO. (117-118)
West Norfolk, Va.
Features textile chemicals. A ceramic exhibit depicting the growth of the textile industry will also be on display.
Representatives at booth:
H. B. Channon — T. T. Allan
J. G. Todd, Jr. — W. C. Dever
J. R. Eldridge — S. C. Soneson
A. K. Scribner, Jr.
E. H. Keys
G. V. Rittenhouse
J. B. Johnson
H. B. Peterson

WALLERSTEIN CO., INC. (36-37)
180 Madison Ave., New York 16, N. Y.
Features desizing enzymes for continuous desizing.
Representatives at booth:
J. Andrew Clark
James Casserly
John C. Robertson
Frank Taberski
Marie Cooney

WARWICK CHEMICAL CO., DIV. OF SUN CHEMICAL CORP. (124)
10th St. and 44th Ave., Long Island City, N. Y.
Features technical data and visual information on chemical specialties for the textile industry.
Representatives at booth:
H. Goldstein — I. Hurd
D. Gagliardi — J. Hoyt
W. Brothers — W. Green
H. Kennedy — M. Lane
A. Piccotti — D. York
M. M. McCann
Ernest Nathan
D. J. Eccleston
S. Y. Stribling III

WATSON-PARK CO. (F)
P. O. Box 158, Ballardvale, Mass.
Features the new Odgen process for simultaneously stripping and dyeing reworked wool in stock or piece form. Synthetic resins and detergents, and stripping agents will also be featured.
Representatives at booth:
F. A. Prisley — H. E. Gile
J. F. Shepard

WESTINGHOUSE ELECTRIC CORP. (122-123)
246 East Fourth St., Mansfield, Ohio
Features Westinghouse Laundromat and dryer and their adaptability to use on new synthetic fabrics.
Representatives at booth:
Jean Jeppesen — J. M. Barnett

JACQUES WOLF & CO. (76)
Passaic, N. J.
Features chemical specialties for textile processing, including antifume agents, synthetic detergents, cation-active and other-type finishes, Monopole oil and other sulphonated oils, enzymic products, hydrosulphites, dispersing agents, wetting agents, and gums.
Representatives at booth:
S. E. Tylee
G. J. Desmond
Arnold Pfister
M. F. Costello
W. Deuble
E. Grady
J. O'Malley
G. W. Scarrell
C. E. Wright
C. B. Runing
C. I. Lakey
C. Hagelgans
F. L. Fassnacht
George W. Apsey
Donald Hoffmann
Robert C. Braun
Lucien Seilet
Roscoe W. Parks
E. J. Pranke
A. J. Jacovino
Dr. Hans Probst

WYANDOTTE CHEMICALS CORP., MICHIGAN ALKALI DIV. (90-91)
P. O. Drawer 11, Wyandotte, Mich.
Features organic and inorganic chemicals, including Kreelon CD, a new detergent for use in processing cotton, wool, silk, and synthetics; and Pluronics, new non-ionic detergents for wool scouring, dyeing and carbonizing of wool, and processing of cotton, rayon, silk, and the synthetics.
Representatives at booth:
P. E. Burchfield — R. K. Rigger
W. L. Rippeteau — H. C. Spoel

NOW more STYMER is AVAILABLE

to help you cut sizing costs

Production of Stymer, Monsanto's synthetic resin sizing agent for rayon, has just been increased again. If you are looking for ways to speed production and cut costs, *now* is the time to get in touch with Monsanto. Here's why:

Stymer is uniform, dependable. A synthetic product, with definite and controlled properties, Stymer permits you to control your slashing and weaving processes more accurately, more economically.

Stymer is easily mixed and stored. Large batches of Stymer can be mixed in advance and stored uncovered for long periods, without loss.

Stymer doesn't gel when cold. It doesn't clog pipes or valves . . . doesn't "scum" in the size box . . . saves costly, time-consuming cleaning.

Stymer cuts weaving costs by reducing or eliminating static problems . . . by reducing shedding and accumulations at the drop wires, heddles or reeds . . . by preventing warp chafing . . . and in many other ways.

Stymer desizes in a hurry. Easily rinsed in warm water with a detergent in jig, beck or continuous washer, Stymer leaves the goods well prepared for subsequent operations. One more reason Stymer is in heavy demand in many of the largest and best-known rayon mills!

Stymer: Reg. U. S. Pat. Off.

Stymer successfully used in leading mills

Stymer has proved its advantages in 115 of the principal rayon mills in the United States after full evaluation of its efficiency and economy.

Why not bring these benefits to your mill?

FOR FULL INFORMATION ABOUT STYMER . . . FILL IN AND MAIL THE HANDY COUPON

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MONSANTO CHEMICAL COMPANY, Textile Chemicals Dept., Desk TWT 42, Everett Station, Boston 49, Mass.

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Company _____

Address _____

City, Zone, State _____

LETTERS FROM OUR READERS

Address all communications to:

Editor, *Round Table*, TEXTILE WORLD
330 West 42nd Street, New York 18, N. Y.

Round Table

PNEUMATIC ROLL PICKERS

Dear Editor:

In your report of the recent meeting of the Textile Operating Executives of Georgia that appeared in the June issue, there is a reference on page 218 to pneumatic roll pickers. We have found one advantage in the use of this device that we think is worth passing on to Round-Table readers.

We have been using the pneumatic roll picker in our spinning room for quite some time. Since we have been using it, we find that we are able to increase the time between the scrubbing, or scouring, of steel rollers.

Where we formerly cleaned our steel rollers every six months, we are now able to schedule this work every nine months.

Properly operated, the pneumatic picker cleans the stands and other places on the frame inaccessible to hand cleaning.

LAWRENCE SMITH

Spartanburg, S. C.

IN-PLANT FEEDING

Dear Editor:

I read with great interest your article on in-plant feeding in the August issue.

Springs Cotton Mills runs the largest and best in-plant feeding in the textile industry. We feed 13,000 in 12 cafeterias: three at the Lancaster plant and one each at Grace Bleachery, the Kershaw plant, the Springsteen plant, the Eureka plant, the Gayle plant, the White plant, the Fort Mill plant, the foundry, and the general offices.

There is over $1,000,000 invested in latest kitchen and cafeteria equipment. Operating under a separate division, the cafeterias have a new meat-handling and refrigeration plant, a cannery, a bakery, and a general storage warehouse.

We serve a hot plate consisting of a meat, three vegetables and rolls, 24 hr. a day, for 40¢. Three of the cafeterias are air-conditioned; the others have forced ventilation.

Since the average loss is about $15,000 a year, we have not had to worry about how to distribute the profit.

I am sending you some photographs to give you some idea of our operation.

ELLIOTT SPRINGS

Lancaster, S. C.

VACUUM STEAMING OF YARNS

Dear Editor:

Certain types of woolen and worsted yarns are rather difficult to control when they contain excessively hard twist. Cross-bred yarns in particular exhibit great springiness and a tendency to twist up and snarl when a lot of twist is inserted, either in the single or the ply.

Conditioning or the simple application of moisture is often sufficient to control yarn liveliness, but sometime drastic measures are required. Normal steaming is not a perfect method, either, and can give rise to faults.

Vacuum steaming, on the other hand, is considerably more effective for controlling yarn twisting and snarling. For woolen and worsted yarns, low-temperature equipment with a range up to 200° F. is used. For nylon yarns, of course, higher temperatures, say up to 300° F., can be used.

Vacuum-steaming equipment utilizes the fact that water boils at low temperature (120° F.) under vacuum conditions. Under these conditions, steam exists as a true gas and penetrates yarns very rapidly.

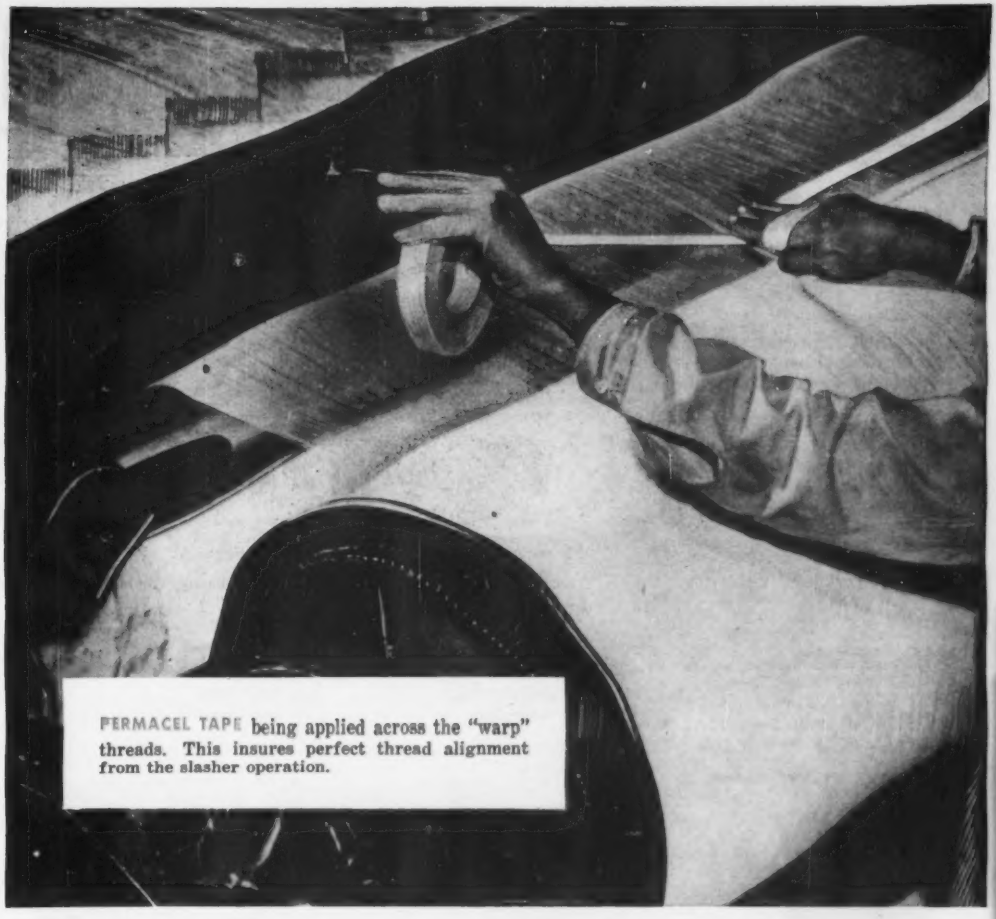
A feature of one of these machines made in Manchester by Sanderson & Co. is that operation is automatic. Once it has been set, identical steaming conditions are reproducible for successive batches of yarn. Control is provided by a thermostatically controlled steam-heated coil at the bottom of the yarn container.

Once the yarn has been loaded into the machine, the only settings necessary are for the steaming time required, for the dry-bulb temperature desired, and for the percent relative humidity needed.

It has been my experience so far that

TEXTILE TICKLES . . . . . *By Edgar Allen, Jr.*

"All right Miss Twittie, so it's fetching—it's still not the kind of apron I asked you to order!"



PERMACEL TAPE being applied across the "warp" threads. This insures perfect thread alignment from the slasher operation.

Save 3 to 6 Yards of Warp

on every beam with Permacel Tape

There's extra profit in every beam when you use new timesaving, waste-reducing PERMACEL. First, you save from 3 to 6 yards of warp on each beam. And more important, you save valuable time by using fast-applying PERMACEL to hold the warp ends firmly and accurately.

MONEYSAVING IDEAS FOR WASTE CONTROL PROGRAMS

Our tape specialists can give you hundreds of shop-tested answers to your waste control problems. No matter how large or small the job, please feel free to write:

Permacel

INDUSTRIAL TAPES

INDUSTRIAL TAPE CORPORATION, NEW BRUNSWICK, N. J.

Makers of ® TEXCEL Cellophane Tape, and a complete line of pressure-sensitive tapes for industry.

vacuum steaming curtails steaming time considerably and yet gives perfect penetration. There is no danger of oversteaming the outer layers of yarn while the inner ones remain untreated. And the absence of air prevents any oxidation of size film.

Finally, more level dyeing is possible with controlled vacuum steaming than with normal atmospheric steaming.

BRITISHER

Manchester, England

FEDERAL SPENDING

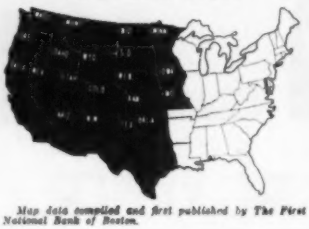
Dear Editor:

In 1929, federal expenditures were less than two-thirds of the total income payments to the inhabitants of California. In 1938, federal expenditures were equal to the income payments of all the 11 Pacific and Mountain States. For the current fiscal year, ending next June 30, federal expenditures will take the equivalent of the aggregate income payments of all those living in the darkened area on the accompanying map of the U. S.

Federal expenditures continue to mount. Outlays are estimated at $71,600,000,000 for the current fiscal year and $87,300,000,000 for the following fiscal year. By that time the federal government will have spent about $402,000,000,000 since the end of World War II.

This last-named amount exceeds by $88,000,000,000 the total spent during all of World War II. It also exceeds by $235,000,000,000 all federal expenditures for the years from 1789 through 1940.

THE DARKENING SHADOW



Map data compiled and first published by The First National Bank of Boston.

We have been told that heavy governmental expenditures are of no real concern since the peak outlay for defense purposes will constitute only about 20% of the gross national product.

This way of figuring is a distorted and misleading yardstick of our ability to carry the load because huge defense expenditures have been the most important factor in the expansion of the gross national product. And goods, equipment, and services provided by defense expenditures do not directly constitute real wealth.

Our country must, of course, spend whatever is necessary to bolster our national defense. But while we are spending staggering amounts for military purposes as a protection against aggression, the administration in Washington is undermining our financial stability, the cornerstone of our nation's security, by condoning waste, extravagance, and corruption that in the aggregate may approach $10,000,000,000 annually.

We, the taxpayers, must be aroused from our lethargy. While there is still time, we must realize that we are the victims of public servants who are selling us down the river.

Our crucial financial situation calls for a united front by us at home who pay the bills.

NEW ENGLANDER

Boston, Mass.

NYLON-BLEND FLAGS

Dear Editor:

The following is a digest of a recent radio broadcast I gave under the auspices of J. W. Valentine Co. of New York.

"After long research, our company has come up with what we know to be the most durable material for American flags, a combination of 75% spun nylon and 25% wool. We call this fabric "Nylanin." In more than two years of tests it has outworn flags made from all wool by three or four times.

"Recently the U. S. Army adopted

(Continued on page 228)

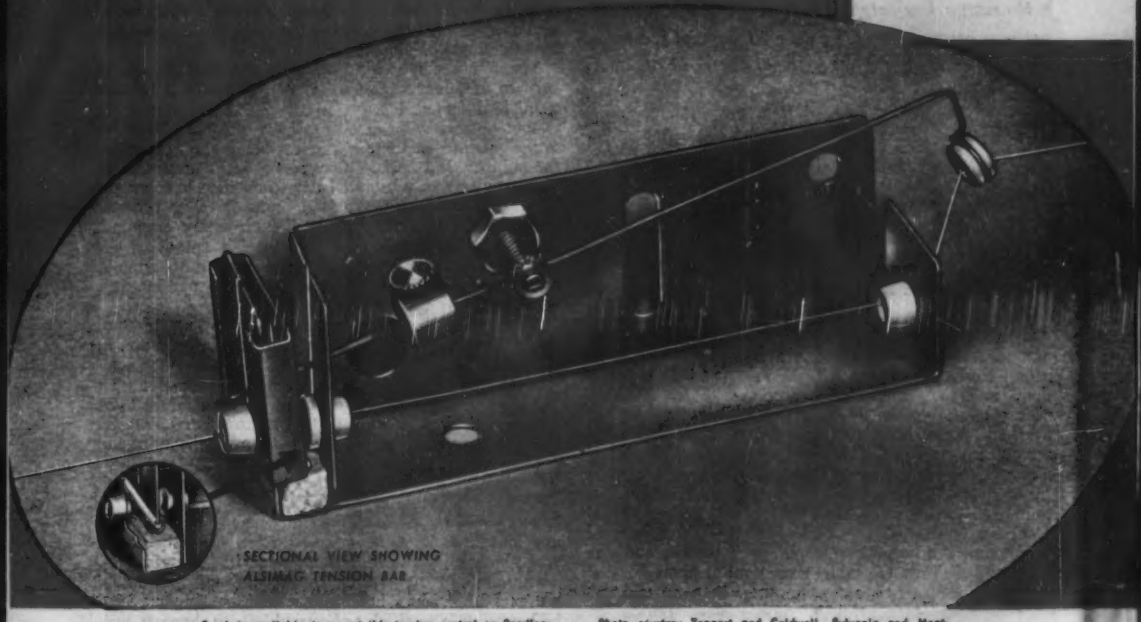
Test Your TEXTILE IQ

▶ Each correct answer rates 10 points. A total of 70 is passing; 80, good; 90, excellent; 100—you're a genius! Keys to answers are on page 216.

1. Loopless-toe hosiery construction is reported to result in savings of:
   a. 1 to 5¢ per doz. c. 20 to 25¢ per doz.
   b. 10 to 15¢ per doz. d. 30 to 35¢ per doz.
2. A center-fork dagger that is set too low may cause:
   a. broken picks c. shuttle marks
   b. filling bands d. floats
3. Shiners are likely to be caused by:
   a. unbalanced tension c. winding wet yarn
   b. twist set improperly d. wrong tint
4. Most textile detergents are:
   a. cationic c. anionic
   b. noncationic d. nonanionic
5. The specific gravity of Acrilan, the new acrylic fiber of Chemstrand Corp., is:
   a. 1.967 c. 1.332
   b. 1.631 d. 1.135
6. Claims filed by cotton mills indicate that most fire losses occur in the:
   a. weave room c. picker room
   b. warehouse d. spinning room
7. A new loom attachment for weaving extra-tight, waterproof cotton fabrics has been developed by:
   a. C & K c. Hunt
   b. Draper d. SRRL
8. A new nylon-hosiery finish has been developed to give:
   a. greater strength c. less elasticity
   b. rich dullness d. smoother feel
9. Garnett production per machine usually is from:
   a. 10 to 20 lb. per hr. c. 130 to 150 lb. per hr.
   b. 50 to 80 lb. per hr. d. 190 to 210 lb. per hr.
10. A tailing machine is used in conjunction with:
    a. warpers c. spinning frames
    b. spoolers d. slashers

RED-FEATHER MONTH is this month, October. Cities and towns all over the country are in full swing in their united health, recreation, and welfare services campaigns in more than 1,300 local Community Chest and United Defense Fund drives. Do your part!

TAGGART and CALDWELL adopts ALSIMAG guides AS STANDARD EQUIPMENT FOR THEIR YARN TENSION CONTROL for knitting more perfect stockings



SECTIONAL VIEW SHOWING ALSIMAG TENSION BAR

Brackets available to mount this tension control on Reading, Wildman, Reiner and Liebertnecht full-fashioned machines.

Photo courtesy Taggart and Caldwell, Sylvania and Montgomery Avenues, Rockledge, Pa., Philadelphia 11, Pa.

AlSiMag custom made thread guides are used throughout the Taggart and Caldwell Yarn Tension Control. AlSiMag guides were selected because of their flawless performance, their extremely long life, and their physical and dimensional uniformity.

The Taggart and Caldwell Yarn Tension Control is designed for better selvedges, less cut selvedges and press offs, for even lengths, for finer fabric and for the elimination of fish eyes caused by snarls in yarn. A uniform, long wearing guide is essential to the free flow of yarn. AlSiMag guides have also proven to be lowest in cost per pound of yarn processed. AlSiMag guides are so hard that they give extra long life even when running the finest denier abrasive yarns at high speeds.

AlSiMag guides are custom made. Samples from our files sent without charge. Test samples hand made to your specifications at reasonable cost. Perhaps you, too, can profit by guides designed for your specific use. Design collaboration on request.

AMERICAN LAVA CORPORATION

50TH YEAR OF CERAMIC LEADERSHIP

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NEW ENGLAND, 1374 Massachusetts Ave., Cambridge, Mass., Kirkland 7-4498 • ST. LOUIS, 1123 Washington Ave., Garfield 4939

Exploring

The Textile Community

By MILDRED BARNWELL ANDREWS

Making SAFE JOBS SAFER Means More Effective Living

▶ *No matter how safe a job is made, people may still get hurt because they are people. Industrial preventive medicine can help remove personal causes of accidents through periodic checkups.*

Health Means More Than Physical Fitness

MILDRED ANDREWS

"Lets's stop off at the personnel office and they'll explain our system of industrial health to you," said the mill executive as we left the spinning plant and walked across the mill's tree-shaded entrance yard. It was one of those late-summer hot days, and the shade from the stately maples and oaks and the breeze which had sprung up from the west felt refreshingly welcome. Beneath the trees were comfortable benches. Some workers waiting for the next shift were there enjoying a bit of social hour. We came near a bench on which sat a man, his arm in a sling. He was obviously not on duty, but just back for a chat with his friends. The executive stopped, solicitously, and inquired, "How are you getting along, Jim? Feeling better? Doctor says your arm is healing nicely. You know, I was awfully sorry to hear about your trouble and I'm mighty glad things are straightening out at home."

We walked on for a few minutes, then he said, his voice seriously thoughtful in tone, "Now, Jim is an example of one of the problems we are trying to overcome in our personnel health and safety program. Poor fellow, he came to work one morning all broken up by a domestic tragedy and, of course, not having his mind on his job, got his arm caught in an elevator door—lucky he wasn't hurt badly. You see," he continued, "we don't limit the word 'health' to a term of physical fitness such as running a race or boxing ten rounds or so, but we feel that health means the capacity to live and to work effectively. And every person does not necessarily have the same measure of effectiveness, either. It is our goal to fit each employee into the most effective job available for him."

"All industries seem to be giving lots of thought to physical fitness and job effectiveness," I remarked. "It actually boils down to the question, 'Why, on a safe job, does a man get hurt?'"

Industrial Preventive Medicine

The conversation prompted me to check into other mills' planning-for-safety programs to find out what was going on in the line of industrial preventive medicine—medicine, in this story, being the term for a plan, not something one swallows by pill or spoon.

The initial assault against industrial accidents has usually been to safeguard machines. A new approach is to safeguard health as well.

Some plants with excellent safety programs have reduced their accidents to a level far below the average for the industry. But because they do not seem to be able to make any further substantial reduction, they have sought the reason for the impasse and found it to be personal causes. These include physical incapacities, improper placement, lack of adjustment on the job, emotional upsets. Industrial preventive medicine then is to remove, or readjust, the personal causes so they do not interfere with the safety of the job.

The problem of personal maladjustments or physical defects is such that a real program is now in operation in many plants of the textile industry to make jobs safer through industrial preventive medicine. Sometimes it may seem like whittling the corners of a square peg to fit a round hole, but the mills that have inaugurated a health-safety program find it pays off both psychologically and economically.

Periodic Checkups Are Basis

The program starts with pre-employment physical checkups and includes systematic checkups throughout the years, both on physical and emotional background bases. These checkups may show a heart condition that would not prevent a man's holding a responsible job, provided he has no stairs to climb or heavy objects to shove or push around. How simple to fit his job into an industrial-safety pattern that would eliminate any undue strain and, thereby, give him the additional years of productivity that his family and his company might otherwise be deprived of.

Many industries check for allergic reaction caused by oils, dusts, fumes, or radioactive materials. Those with positive reactions are screened and so placed that they will avoid contact with the troublemaking elements. Sometimes it is feasible to change types of materials used to prevent discomfort or illness for the worker.

Industrial-vision programs, not new to the textile industry, are gaining momentum. Through visual-performance tests and vision corrections, accidents have lessened, fatigue and irritability have been reduced, and efficiency and productivity improved. It's just common sense to know if a man can see well enough only to get by, he may be injured because of poor vision. All too often workers do not realize they have defective vision until they are given the routine tests.

I once knew a whiz of a golfer who ruined his score card

(Continued from page 262)

SODIUM FORMATE

HEYDEN

HEYDEN SODIUM FORMATE
is a white, crystalline powder of high purity, which is useful in organic synthesis as well as in the process industries.

The importance of sodium formate as a mordant is well known to the textile and printing industry. In the chrome tanning of leather, it forms a liquor that produces a smoother leather.

Heyden Sodium Formate is shipped in 300 lb. fiber drums.

FOR WATER-RESISTANT WALLPAPERS

FOR TEXTILE DYEING

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HEYDEN FORMIC ACID (90% and 85%)

Shipped in 125 lb. carboys and 500 lb. stainless steel drums. Important as a reagent in paper treatment, leather and textiles, rubber and dyes, metal plating, laundry sours, and as an intermediate for drugs, perfumes, production of formates, etc.

Samples and technical literature mailed promptly on request.

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Benzaldehyde • Benzoates • Benzyl Chloride
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Formaldehyde • Formic Acid • Glycerophosphates
Guaiacols • Hexamethylenetetramine
Medicinal Colloids • Methylene Disalicylic Acid
Paraformaldehyde • Parahydroxybenzoates
Penicillin • Pentaerythritols
Propyl Gallate • Resorcinol • Salicylates
Salicylic Acid • Streptomycin

SERVING INDUSTRY THROUGH FINER CHEMICALS

Kinks AND SHORT-CUTS

Here's How To Build An All-Welded Drill Press

I made this handy drill press for my workshop. Here are a few suggestions to follow if you want to build one.

The spindle is a piece of ½-in. ground shafting with the end turned taper to mount the Jacobs drill chuck. The spindle has a keyway to take the drive from the pulley key.

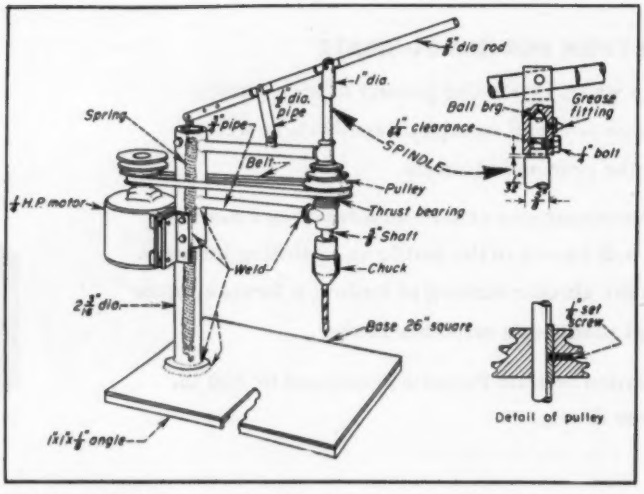
The top of the spindle has a thrust cap to transmit the pressure from the operating lever to the spindle. I used an ordinary ball as a thrust bearing. You will need a grease fitting here to keep the parts from galling. The ¼-in. bolt in the groove keeps the parts assembled.

Both spindle-bearing supports are made from ¾-in. pipe tees and are drilled out. I made two bronze bushings, bored to the diameter of the spindle, and inserted them in the pipe tees.

For the column, I welded plain tubing to a collar, which is welded to the base. The spring on the inside of the column returns the spindle to the top position when the hand operating lever is released.

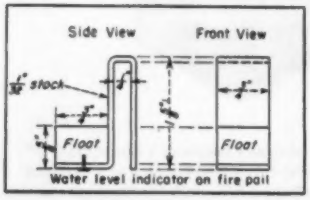
The motor-base support is made from angles and is welded to the column. Correct belt tension is obtained with space washers.

Be sure to align all parts carefully when you weld. The spindle, or a similar round bar, should be in the spindle bearing supports when the ¾-in. pipe is welded to the vertical column. Also be sure that the spindle is at right angles to the bottom base.



THIS DRILL PRESS has a 7-in. stroke and handles up to a ½-in. drill. It cost me only $5.00 of which $4.00 was spent for the chuck.

Here's a Water-Level Indicator for Fire Buckets



THE U-SHAPED ARM hangs over the side of a water bucket so that the float is raised and lowered by the water. You can tell the exact water level in each bucket from the floor by checking the position of the arm.

Fire buckets are usually hung too high for a person to see into them from the floor. The fire buckets should be checked regularly to make sure that they are full of water. We made a water-level indicator so we can tell if the bucket is full without taking it down. The indicator, as shown in the drawing, is made from a strip of shim-stock or other thin sheet metal. It is 4½ in. long and ¾ in. wide and is bent into a U-shape with a foot on one end. A float, made of cork or other soft wood, is cemented or pinned onto the foot of the device. The U-shaped arm is placed over the top edge of the bucket; and when the water is sufficiently high, the float causes the whole device to rise. From the floor, we can see if the bucket is full of water. We painted the lower end of the outside leg a bright color so that it is easy to see.

A shellac or lacquer coating on the entire assembly will prevent rust, corrosion, or water-logging of the float. If covers are used on the fire buckets, you can cut a small slot in the edge of the cover to permit use of the indicator.

all 4 advantages you want

in a fluorescent lampholder...

exclusive with Benjamin... *yours at no extra cost!*

In a fluorescent lampholder, the four advantages you want most... the four features that you would include were you designing a lampholder of your own... are *yours* with Benjamin "Springlox." Benjamin brings you this exclusive, patented advancement at no additional lighting equipment cost!

These four most-wanted features bring you everything you require of a fluorescent lampholder: longer life, better electrical contact, speedier relamping and all-around simpler, quicker, safer lighting maintenance.

You get these four most-wanted features exclusively with Benjamin. They are yours as "standard equipment" with every Benjamin Industrial Fluorescent Lighting Unit, whether it uses two T12 lamps or three, bi-pin or single-pin lamps, for individual units or continuous line construction.

*Exclusive with all**
BENJAMIN FLUORESCENT UNITS

BENJAMIN
"Springlox"
lampholders

sold exclusively through electrical distributors

1 "Built to take it" RUGGEDNESS Practically indestructible ALL-METAL construction. NO BREAKAGE... NO out-of-service time due to socket failure. Lamps CUSHIONED against shock and vibration.

2 SAFETY Whether installed in a steel mill or office, lamps cannot drop out or be shaken loose, because "Springlox" is SELF-ADJUSTING for slight differences in lamp length.

3 "Quick-in, quick-out" LAMP SERVICING Makes lamp servicing simpler for all T12 fluorescent lamps. "Finding ring" makes possible "ONE-HAND" lamp insertion of bi-pin lamps.

4 "Never-fail" ELECTRICAL CONTACT Never fails to make contact the *first time*. "Easy-make, easy-break" circuit switch built into single-pin type. Separate springs for electrical contact and locking compression.

Bi-pin type "Springlox" for 2 or 3 lamps

transparent view of "push end" shows how flexible spring base simplifies lamp insertion.

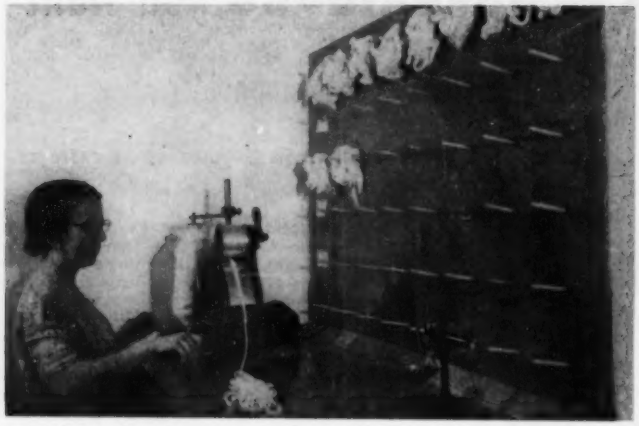
Single-pin type "Springlox" for 2 or 3 lamps

*"Springlox" lampholders are designed to accommodate all T12 Lamps for industrial use.

Send for **FREE "SPRINGLOX" DATA BULLETIN!** Tells you more about time and labor savings made possible by "Springlox"-equipped Benjamin Fluorescent Lighting Units. For your free copy, write: Benjamin Electric Mfg. Co., Dept. EK, Des Plaines, Ill.

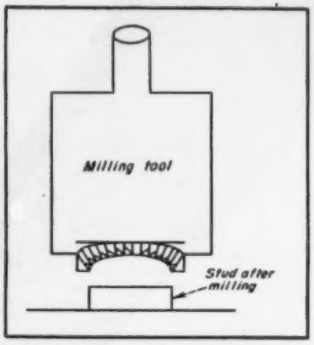
B-4580

Roving To Be Sized Conditioned on Board



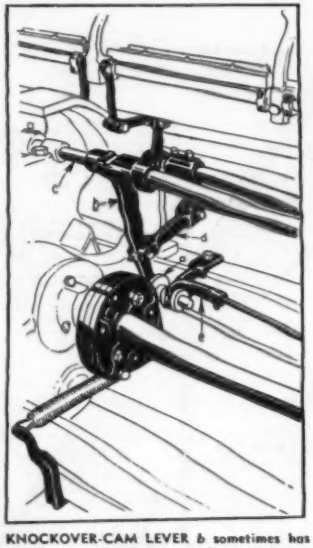
WE CONDITION ROVING overnight before we check it for hank number. We made this board to put the 12-yd. samples on while they are being conditioned. Each of the six rows of pins holds eight samples. We identify each row of samples with a tag at the left hand side of the row. *Frank C. Williams, Jr. Roanoke Rapids, N. C.*

Open-End Milling Tool Designed for Dobby Studs



THIS OPEN-END milling tool will fit into any ½-in. chuck on an electric drill. We repair our worn studs by building them up with weld. Then we use this tool to mill the studs to fit the holes in the inner jack. With this tool, the whole operation takes about 10 min. *Charles R. Batzer, Lancaster, Pa.*

How We Remove Knockover-Cam Levers



KNOCKOVER-CAM LEVER *b* sometimes has to be disconnected from shaft *c* so that it can be lubricated properly. To do this job, loosen the connection and knock the lever along the shaft.

If the knockover-cam levers on a full-fashioned machine do not swing freely on the shaft, the knitted fabric will be weakened or actually cut because the knockover beds do not drop under control of the cam motion. The lever hubs require considerable oil, and you will have trouble if the hub bearing gets gummy or sticks to the shaft. If it gets in this condition, you must do a thorough fixing job. Here's how we do it.

1. Soak the bearing with a good rust inhibitor.
2. As shown in the sketch, remove the pin that fastens lever (or link *d* to lever *b* and drop the end of *d*.
3. Remove shipper *e*, the lever spring, and cam-follower roll *a*.
4. Loosen the collars at each end of the lever hub on shaft *c* and carefully drive them away, if they cannot be moved easily. With a babbit block resting on shaft *c* and against the lever hub, drive the hub its full length along the shaft with a heavy hammer. Be careful not to strike the babbit block harder than necessary; heavy blows may break the cam lever. Be sure the lower end of the lever does not come into contact with the cams or shipper.

Clean the shaft and then carefully draw a file across any burns that may be found on the shaft. Lubricate the parts well and reassemble them.

How I Sell Jobs With Photographs

When I interview job applicants, I have a ready answer for them when they ask, "What kind of job is it?", or "What shall I wear?".

I fitted my camera with a flash attachment and take pictures of employees at work to show prospective employees what the jobs are like. I take the pictures at a distance of three long paces (about 10 ft.). The pictures are then enlarged to 5x7 in. I understand that good results can also be obtained with a simple box camera equipped with a flash attachment.

I keep a file of pictures of employees doing their various jobs in the plant so that I can show job applicants what the work is like. I also find it helpful to be able to reach in the file and pull out a picture of the foreman and say, "Here's the foreman in that department. He'll be friendly and helpful to you and train you well for the job."

Women applicants are sometimes afraid of jobs involving machine work until I show them a picture of the job. A picture or two of a smiling woman operating a looping machine or removing socks from a knitting machine will usually change their ideas.

The flash adds very little complication to taking pictures.

Always Uniform

Starch, as well as golf balls, requires precision control in every manufacturing step to maintain unvarying high quality.

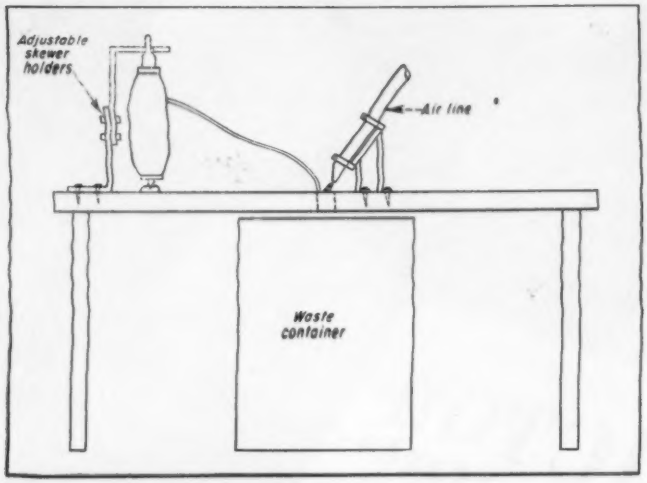
That's why over the years Victor Mill Starch has become known far and wide as "The Weaver's Friend."

Victor provides better penetration, stronger warps, smoother surface, less shedding, fewer slashing problems. Rely on it . . . and the Keever man who serves you.

TEXTILE SALES DIVISION
1200 WOODSIDE BUILDING
GREENVILLE, SOUTH CAROLINA
Charles C. Switzer, Manager

THE KEEVER STARCH CO. ★ GENERAL OFFICES ★ COLUMBUS 15, OHIO
Corn, wheat and other grain products for industry since 1898

We Strip Roving Bobbins With This Device



WE STRIP ROVING BOBBINS with air pressure. We rigged up this device, which consists of a wooden table, three brackets to hold skewers, a holder for the air line, and a fiber-board waste container. The air pressure unwinds the bobbin after the end is started into the air stream at the hole in the table. The waste is not damaged, nor are the bobbins, with this device.

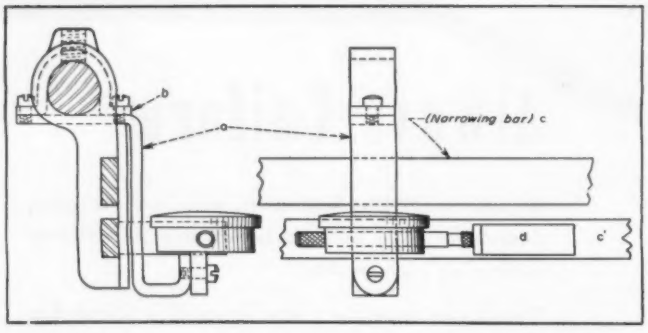
Our bobbin stripper broke down; and as a temporary measure, we punched a hole in the top of a fiber-board container and stripped the bobbins by letting air pressure pull the ends off. It worked so well that we made this device to strip our bobbins.

We bored a ¼-in. hole in the top of a wooden table. We smoothed out the hole with fine sandpaper. We built a bracket to hold the air hose so that the air is directed almost straight down in the hole. Then we made brackets to hold three bobbins. More bobbins could be stripped at one time if it were desired. Underneath the table we put a waste container.

To operate this stripper, a man starts the end of roving into the hole in the table with the air pressure turned on. The end is forced by the air stream down into the waste container. The bobbin skewer is held in a bracket; and a porcelain holder supports the bottom. The bobbin unwinds as the roving is pulled off.

We like this method of stripping because the waste is not torn up and the bobbins are not damaged.

Here's How I Check Narrowing Bars for Lateral Motion



THE MICROMETER GAUGE is mounted as shown above. The bracket *a* and its cap *b* are made from ⅛x⅝-in. cold-rolled stock. Angle *d* is made from ⅛x½-in. cold-rolled stock and is clamped horizontally to the lower narrowing bar *c'*.

Recently the right-hand side of a nearly new full-fashioned machine dropped stitches in the narrowing. I found that the narrowing bar moved laterally during the dips of the narrowing machine; and with an indicator mounted on the front shaft, I found the movement to be 0.007 in.

I mounted a micrometer dial gauge on the machine as shown in the accompanying diagram. The upper end of the bracket may be modified if necessary to clear the carrier bars when the narrowing machine is at the bottom of its dip. Also, the angle d may be clamped vertically to the upper narrowing bar c if the lower end is sprung out a little to clear bar *c'*. When you use the dial gauge, you should inch the machine by hand so that you can note the dial readings. *Walter A. Simond.*

We Made Lap-Pin Holders

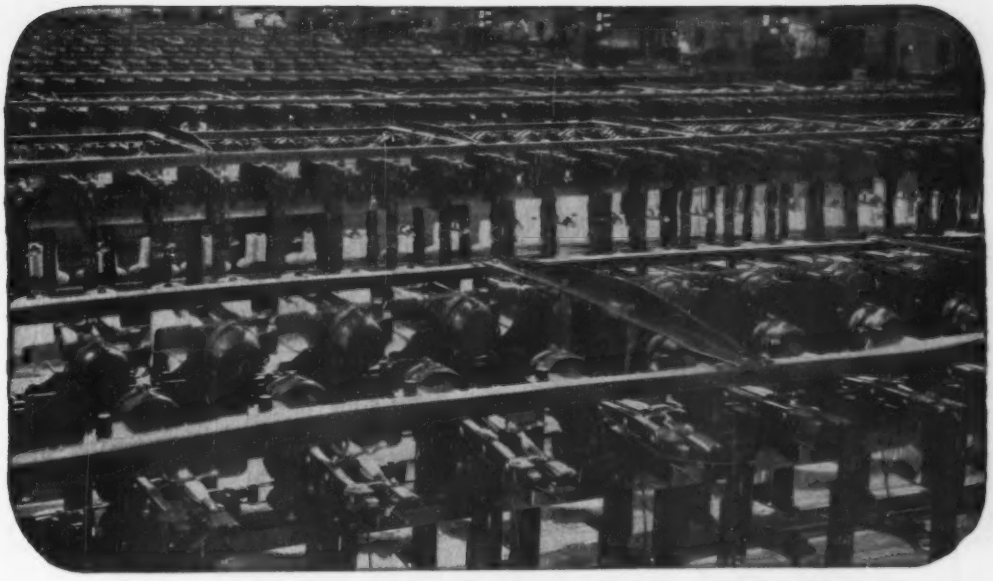
We used to have picker-lap pins on the floor around our cards. When the card tender laid a lap, the pin was either dropped on the floor at the back of the card or was placed on end and leaned against the lickerin shaft. In either case, the pins were an accident hazard.

We welded two metal rings to the card side between the lap stand and lickerin so that the lap pin could be put on ends upright in the rings.

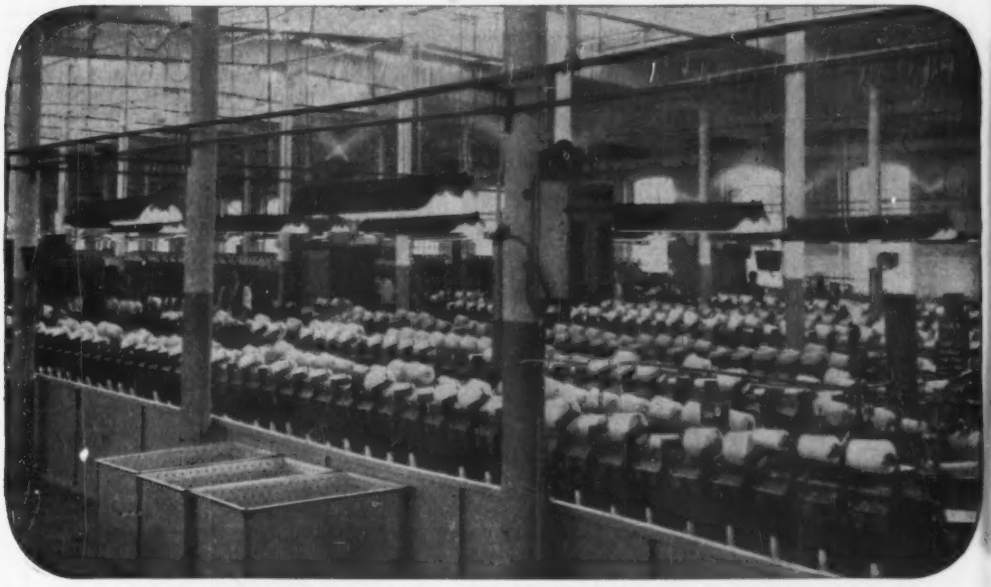
Spinning-Waste Rolls Are Easily Stripped

On our woolen spinning frames, we use waste rolls about 2½ or 3 in. long. To make the rolls pick up fly better and also to make the rolls easier for the spinner to strip, we made a couple of changes to the rolls.

First, we turned the rolls down so that one end was about ¼ in. larger in diameter than the other end. Then we covered the rolls with cloth. The cloth is glued on. Finally, we stuck a ring of "Scotch" tape around the larger end so that the spinner would know at a glance which end to slide the waste over. *Robert Bogardus, Philmont, N. Y.*



ABBOTT AUTOMATIC QUILLERS PRODUCE MAXIMUM PRODUCTION PER OPERATOR AT LOWEST COST. 1000 TO 2000 BOBBINS OF WOUND FILLING PER HOUR PER OPERATOR.

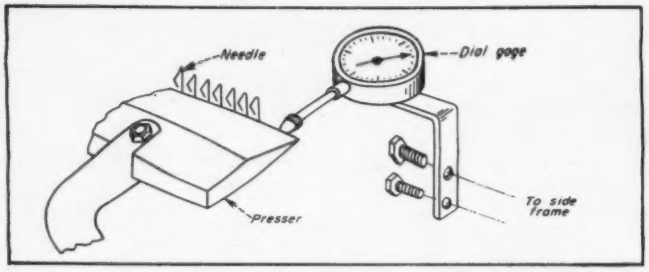


ABBOTT AUTOMATIC WINDERS REQUIRE ONLY ONE OPERATOR PER MACHINE. 800 TO 1000 BOBBINS WOUND ONTO CONES OR CHEESES PER HOUR PER WINDER.

ABBOTT MACHINE CO., INC.

WILTON, NEW HAMPSHIRE

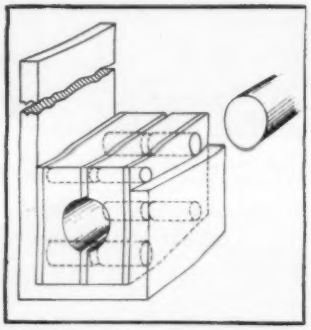
SOUTHERN OFFICE, GREENVILLE, S. C.



We Use Dial Gauge To Adjust Tricot Presser

THE DIAL GAUGE is fastened to the side frame and is adjusted to read zero when the presser first touches the needles. We can read the amount of press against the needles at any stage by looking at the dial gauge. We have obtained best results with about 2 mm. of pressing. Over-pressing causes needle breakage and under-pressing causes tucking. ***Minoru Uno, Japan.***

We Use Wooden Blocks To Loosen Screw-Joint Steel Rolls



ONE BLOCK, as shown above, is fastened to each side of a tight roll joint. U-shaped arms are used to give enough leverage to loosen the joint. Steel plates on the outsides of the blocks keep the leverage arm from damaging the blocks, and the inner surface of each block is shaped to fit the roll flutes.

Screw-joint steel rolls sometimes become stuck. If you use improper tools or methods to separate the rolls, you may damage the flutes.

We made a pair of hardwood blocks to put on the rolls so that we could loosen the joints without damaging the flutes. The split-type blocks have an inner surface that fits the flutes of the roll. Of course, we have a different set of blocks for each size and pitch roll. Here's how we use them.

We fasten a pair of blocks to the boss on each side of the roll joints. The blocks are tightened to the roll with carriage bolts. We screw a thin steel plate to the straight side of each block to give a firm surface for the leverage arm to work on.

The leverage arm is made from ¾-in. flat iron or steel bars and is bent into a U-shape to fit loosely on the blocks. The lever is long enough to enable us to get the most stubborn rolls loosened. We put a lever on each block and pull them in opposite directions to loosen the joint. The bolts that hold the blocks together are placed to hold the levers in position and prevent side slip.

$200 for Best Kink in 1951
$25 for Best Kink Each Month

In Addition to Space Payment on Acceptance

You undoubtedly know of many kinks and short-cuts that are helpful to mill operators. Write them down and send them in. We pay promptly on acceptance—before publication. In addition, your kink may win the $200 check for the best kink of the year or the $25 check for the best kink of the month; maybe both!

Send in your kink now. There is always a contest going on. The more good kinks you send in, the better your chances of winning a prize in addition to earning some easy money for every kink accepted.

We will polish up your writing and will have an artist make finished drawings. But send in plenty of details so that your kink can be clearly explained. Be sure your sketch is clear and well labeled, but it need not be a polished job. Best of all, send us a good glossy photograph of it—we will pay you extra if you do and we can use it.

Look over the kinks in this and other issues. You will get ideas you can use as well as inspiration for kinks you can send in. We like items that pertain to ways for improving machines, new devices that a mill man can build, attachments or methods of merit—anything that will cut costs, improve quality, or help production.

Your published kink will be judged impartially by other mill men. In case of ties, duplicate prizes will be awarded.

RULES OF CONTEST

1. No limit to number of entries.
2. New $25 prize contest every month, $200 prize contest for the year. Monthly contest confined to kinks published that month, yearly to those published in calendar year 1951.
3. All kinks paid for on acceptance; extra payment for photographs. Drawings need not be finished (clear detailed pencil sketches will do).
4. Previously published material not eligible for prizes.
5. Unless you advise to contrary, we assume we may sign your name to kink when published.
6. Prize winners will be selected by readers, a different group each time. At least 200 will be asked to select preferred kinks in each issue. Their votes will select the best kink, and their decision will be final.

Send kinks to whichever address you prefer:

TECHNICAL EDITOR, TEXTILE WORLD
330 W. 42nd St., New York 18, N. Y.

SOUTHERN EDITOR, TEXTILE WORLD
2385-A Lindmont Circle, N. E., Atlanta, Ga.

NEW ENGLAND EDITOR, TEXTILE WORLD
P. O. Box 305, Salem, Mass.

It's more than the Best Paint on the Market...

It's the Best Paint On the Wall!

There's only one true way to test the real quality and value of a paint. It's the *on the wall* test . . . the simple, inexpensive test that tells you, *in advance and in no uncertain terms*, what a paint will do and what it will cost to do it.

All you do is take a gallon of Barreled Sunlight and a gallon of any other good paint. Thin each according to the directions on the cans. Then cover test areas with each paint . . . measuring the square feet covered by each, comparing the hiding properties of each and — because labor represents a good 80% of the cost of any paint job — carefully check the time involved in applying each.

We'll wager dollars to doughnuts that in such a test Barreled Sunlight proves best. Yes, best in performance *on the wall* . . . tops when it comes to giving you a better looking, longer lasting paint job at the lowest possible cost!

Talk it over with our representative. He'll pay a friendly and constructive call at your request. Write today.

BARRELED SUNLIGHT PAINT COMPANY, 20-J Dudley St., Providence, R. I.

Barreled Sunlight *Paints*

In whitest white or clean, clear, wanted colors, there's a Barreled Sunlight Paint for every job

IT ALWAYS COSTS MORE NOT TO PAINT!

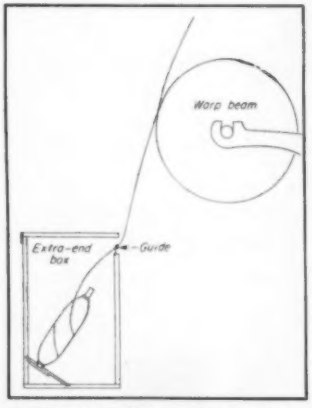
For over half a century the symbol of quality and dependability among paint buyers for leading industrial, institutional and commercial buildings

Kinks AND SHORT-CUTS

We Made a Rack To Hold Cloth Samples

CLOTH SAMPLES to be tested in our lab are conditioned overnight under standard atmospheric conditions in the lab. The samples are marked for identification and are hung up with clothespins, which are drilled and threaded on wires in the rack. The samples are easily available to the lab technician and are out of the way until she needs them. *Frank C. Williams, Jr., Roanoke Rapids, N. C.*

Here's How We Feed Extra Warp Ends

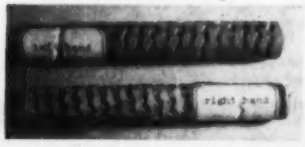


EXTRA WARP ENDS are fed to the beam from bobbins mounted on spindles in boxes like the one shown. Tension is kept uniform because the ends are wrapped around the beam.

When extra warp ends are needed, we don't have any tension problems. We made several boxes to hold warp bobbins. The boxes are made of ¼-in. plywood, and the tops of the boxes are hinged. The front side of the box is 1½ in. lower than the sides and the back. On top of the low front side, we have a yarn guide for each spindle we have in the box. Each box holds three bobbins. The base of the spindle is mounted at such an angle that the spindle points toward the guide. We mounted the blades of old spindles on ¼-in. steel stock and welded it to the base plate.

The extra ends come from the bobbins, go through the guides, and are wound once around the warp beam. The end is pulled off by the warp beam, and we are not bothered with ends being too slack or too tight. The box has a cover to keep sweepings, etc., off of the yarn because the box is just set on the floor.

We Use Colored Temple Rolls



WE BUY OUR TEMPLE ROLLS in different colors. The right-hand rolls are white, and the left-hand rolls are gray. In this way, we avoid any error in placement of the rolls. Our fixers appreciate the different colors because they do not have to inspect the spiral to determine which rolls go into the left or right-hand temple caps. H. E. Wenrich, Berwick, Pa.

Best-Kink Award for August

Each month TEXTILE WORLD awards $25 to the submitter of the kink which is judged by a panel of over 200 practical mill men as the best for that particular month. A new batch of kinks appears each month, and a new group of readers acts as judges each month.

If you are asked to judge one of these days, be sure to help select the best kink by sending back your answer in time for final tabulation. Closing date for judging is the last day of the month in which the kink appears.

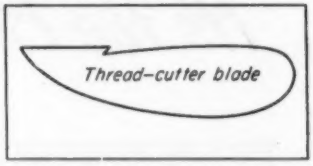
The best kink for August, according to TEXTILE WORLD reader-judges, was:

"Our Spindles Are Self Oiling With This Device"

W. N. Poe
Talladega, Ala.

Mr. Poe is being sent a check for $25 with the compliments of TEXTILE WORLD.

We Notch Cutter Blades To Hold Filament Filling



FILAMENT DECORATION YARNS in filling used to slip out of the cutter on our C-4 suiting looms. We notched the cutter blades as shown in the sketch to keep the ends from slipping out of the cutter. We have practically eliminated jerked-in filling on transfers of filament quills as a result.

Need More Fiber Grip? —Try Metal Top Rolls

Some time ago we were running a mix of peeler and Egyptian cottons, and we had trouble drafting it. The amount of snarled and cockled yarn was excessive.

I thought perhaps a better grip of the fibers by the middle roll would help. So I had a few metal rolls the same size as our leather top rolls made in the machine shop.

We took out a few of the leather middle top rolls and replaced them with the metal rolls. The snarled and cockled yarn was very much reduced on the ends run.

Then we tried a whole side of a spinning frame with the homemade metal rolls. The results were so satisfactory that I had the middle rolls on every frame running that mix changed to the metal rolls.

We ran these rolls for years. *William Shaw, Providence, R. I.*

Step up your weaveroom efficiency

with this CW in

HOUGHTO-SIZE CW . . .

Add to starch and water for a cost-saving size that gives a stronger free-running warp!

When you see "CW" after Houghto-Size you can be sure you're getting a warp sizing compound that gives you improved weaving results . . . and a new low in kettle cost! All you do is add Houghto-Size CW to starch and water—no other ingredients required.

GET SLEEKER, SLICKER WARPS

With these three ingredients you produce a sizing agent that combines an all-in-one softener, binder and plasticizer. It leaves a slick coating on the warp . . . makes it smoother, more weavable . . . keeps it from sticking to dry-cans!

GET RISING WEAVE ROOM EFFICIENCY

You'll find highly concentrated Houghto-Size CW assures you of strong, elastic warps. Loom efficiency will rise. Loom stoppage will decrease substantially.

GET FULL INFORMATION PROMPTLY

Write or call E. F. Houghton & Co., 303 W. Lehigh Avenue, Philadelphia 33, Pa. for further information and prices on the new Houghto-Size CW. We'll include our illustrated bulletin, "Step Up Warp Sizing Efficiency" which describes our complete warp size check-up service available to Houghton customers.

SPECIAL

If sizing is your responsibility, a request on your mill's letterhead will bring you free of charge a copy of Houghton's 160 Page "Handbook on Cotton Warp Sizing".

HOUGHTO-SIZE CW

. . . product of

E. F. HOUGHTON & CO.

PHILADELPHIA · CHICAGO · DETROIT · SAN FRANCISCO

Ready to give you on-the-job service . . .

ELIMINATE MOTOR FAILURE

with class (H) insulation

made with DOW CORNING SILICONES

Wet Motors are a constant threat to your production schedules . . . unless they're wound with Dow Corning Silicone (Class H) insulation. Here's evidence of the fact that Class H has at least 10 times the wet insulation resistance of the next best class of insulating materials. At Virginia-Carolina Chemical Corporation's Homewood mine, a 300 hp., silicone insulated motor was back in service 3 hours after flooding with mud and waste water. Under the same conditions, an identical Class B motor had to be reworked and rebaked. Similar experience over the past 5 years has persuaded many chemical companies to specify Class H exclusively for all condensate and centrifugal pump motors.

Hot Motors die young . . . unless they're protected with Dow Corning Silicone (Class H) insulation. Here's evidence of the fact that Class H insulation makes hot and hard working motors last 10 times longer than they ever did before. Silicone insulated spinner bucket motors in rayon mills last 6 to 24 times as long as Class A motors. Silicone insulation makes the high speed, rapidly reversing motors used by Cogsdill Twist Drill Company last 12 to 100 times as long as Class A or Class B motors. In a large steel mill, a crane hoist motor had 4 to 42 times the life of a Class B motor.

Keep 'em running with Dow Corning Silicones

Write today for list of Class H motor manufacturers or listing of Class H rewind shops now located in all major industrial centers.

Address Department AJ-10

DOW CORNING CORPORATION, MIDLAND, MICHIGAN

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. . . If the equipment, process, or product you want information on is not covered in this section or in this issue, simply write the subject on the card and mail it. The editors of TEXTILE WORLD will attempt to obtain full information for you

---

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Outstanding TRADE LITERATURE
Free for the Asking

NO REPEATS . . . Listed here for October are current bulletins reviewed by the editors of TEXTILE WORLD. To get the ones you need, circle the number on the Reader-Service card, as described on the preceding page.

TEXTILE MACHINERY

A new woolen card—model L—is described in a bulletin prepared by Davis & Furber Machine Co. The three-cylinder card is motor driven. The fancy is driven by an adjustable-speed V-belt pulley. The tape condenser is also of a new design. **(F-1)**

A multiple-head automatic knitter for narrow-rib fabrics, borders, underwear, tapes, and the like is shown in a folder put out by Ainslie Knitting Machine Co. The knitter can produce three or four bands of fabric at a time. A sample of fabric is included in the folder. **(F-2)**

A tensionless calender—of either the folding or roll-up type—is described in a folder published by Tubular Textile Machinery Corp. Circular-knitted fabrics can be spread, steamed, and folded without lengthwise drag or tension, according to the bulletin. **(F-3)**

Clothroom machinery and the layout at Phoenix Silk Corp. are discussed in a folder issued by Hermas Machine Co. Several "kinks" used at Phoenix are described. Most of the data are about shearing, rolling, and sewing. **(F-4)**

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Package dyeing on the Morton system is described in a brochure made available by Morton Machine Works, Inc. Methods of dyeing vertical beams, horizontal beams, packaged yarn, tubes, springs, and cakes are all discussed. **(F-10)**

Bunching, twisting, laying, and stranding processes are discussed in a folder prepared by Haskell-Dawes Machine Co. Among the machines described are twisters, ropers, layers, and bunchers. Wet-twisting tank units and creels are also listed. **(F-11)**

An automatic boarding, drying, stripping, piling, and counting machine for hosiery is the feature of a catalog issued by Proctor & Schwartz. Stop-watch tests results compare pull-on times for various types of equipment. **(F-12)**

A crimper for nylon or other synthetic fibers is described in a folder published by Turbo Machine Co. Crimping wheels, interchangeable, accommodate from two to five tows at a speed of 320 ft. per min. **(F-13)**

AUXILIARY EQUIPMENT

Frame conditioning of twisting frames is shown in a flyer put out by Air-Perme-Ator Mfg. Co. A clear sketch shows how the system operates. **(F-14)**

Underframe cleaners for spinning frames are presented in a catalog issued by The American Monorail Co. A cardboard cutout—free with each catalog—represents the actual space required for an underframe cleaner. Want to see if it'll fit under your frames? **(F-15)**

You can check roll speeds right in your office with a tachometer described in a bulletin from Metron Instrument Co. The tachometer measures the speed of up to 10 machines by the flick of a knob. **(F-16)**

Snap-action switches for automatic safeties, limits, and interlocks are described in a bulletin from Micro Switch. The purpose of the bulletin is to acquaint

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Outstanding TRADE LITERATURE *Free for the Asking*

NO REPEATS . . . Listed here for October are current bulletins reviewed by the editors of TEXTILE WORLD. To get the ones you need, circle the number on the Reader-Service card, as described on the preceding page.

TEXTILE MACHINERY

A new woolen card—model L—is described in a bulletin prepared by Davis & Furber Machine Co. The three-cylinder card is motor driven. The fancy is driven by an adjustable-speed V-belt pulley. The tape condenser is also of a new design. **(F-1)**

A multiple-head automatic knitter for narrow-rib fabrics, borders, underwear, tapes, and the like is shown in a folder put out by Ainslie Knitting Machine Co. The knitter can produce three or four bands of fabric at a time. A sample of fabric is included in the folder. **(F-2)**

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Reader Service (Continued)

readers with the company's entire line of over 5,000 switches. Nine representative categories are given. **(F-17)**

Humidity recording and control by electronics is the subject of a data sheet issued by Minneapolis-Honeywell Regulator Co. The new system makes possible direct readings of humidity from remote locations. **(F-18)**

An adjustable-speed magnetic drive that gives precision speed control is described in a publication from Electric Machinery Mfg. Co. Charts, diagrams, and illustrations help to clarify the technical information presented. Several pictures show actual installations. **(F-19)**

Running-time recorders that show how long machines are on and off are described in a bulletin issued by The Bristol Co. Production costs are said to be lowered when manufacturers know more about actual downtime. **(F-20)**

SUPPLIES AND CHEMICALS

Rings for spinning and twisting all types of yarns are described in a flyer made available by Herr Mfg. Co., Inc. A special oil-bearing bushing combines with the regular oiling system to assure positive and adequate lubrication by increasing the lubricating area. **(F-21)**

Fabrics for females—that's the business described in part of a recent Rohm & Haas *Reporter*. The story tells how several textile chemicals give lingerie fabrics the quality, uniformity, and "hand" that such products demand. **(F-22)**

"Practical Aspects of Pigment Dispersion." That's the title of the most recent technical bulletin published by American Cyanamid Co., Calco Chemical Div. The booklet explains how pigments are broken down and what processes accomplish the desired result. Easy-to-understand sketches make the subject a lot clearer. **(F-23)**

Seeing is believing—and The United Piece Dye Works has prepared a couple of booklets intended to show how their finishes are applied to and look on spun-rayon fabrics. The colorful booklets show clothing with and without special finishes. And each machine that is used is pictured. **(F-24)**

A new lubricant—a lithium-based grease—is the subject of a booklet prepared by the Shell Oil Co. The new product is water resistant and heat resistant up to 350°F. It is said to replace from 10 to 20 special-purpose greases. **(F-25)**

Anhydrides and their uses are discussed in a bulletin from Union Carbide & Carbon Corp. A bibliography lists all of the important references to anhydrides in chemical literature. Uses, physical properties, and shipping data are also given. **(F-26)**

A finish for nylon hosiery—Nilaton 51—is described in a leaflet issued by Commonwealth Color & Chemical Co. The product, an aldehyde condensation of a polysaccharide, is said to impart a hand similar to that obtained with resin finishes. **(F-27)**

ENGINEERING AND MAINTENANCE

"Over The Rough Spots" is the title of a booklet on bad floor conditions issued by Stonhard Co. The booklet tells how to protect both concrete and wood floorings —without highly skilled workmen. **(F-28)**

Storage-battery information is given in a handbook offered by Gould-National Batteries, Inc. An addition to this edition is a special section on battery charging. Pictures help to tell the story of proper battery care. **(F-29)**

Industrial lighting: Westinghouse Electric Corp., has prepared a lighting-at-work booklet that stresses the actual dollars-and-cents benefits of better lighting. The three modern sources of light

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SIMPLIFIED TROUBLE-FREE SYSTEMS FOR spot, booster or complete humidification

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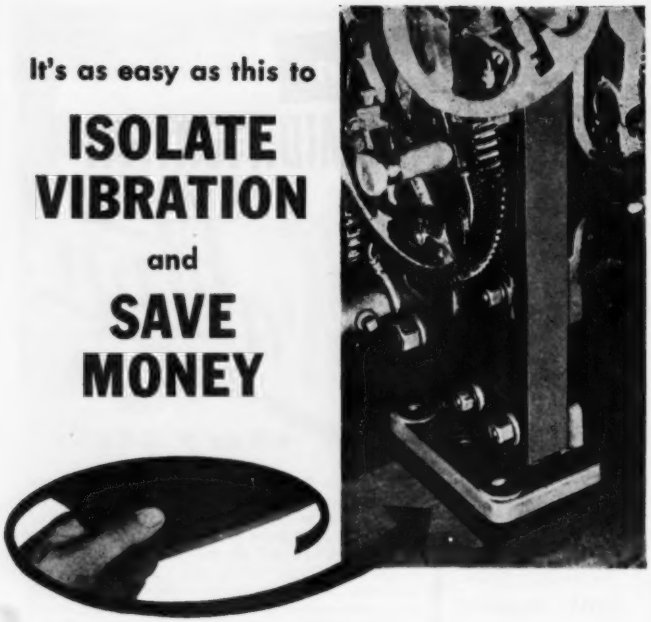

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Here's the durable mounting to absorb vibration . . . reduce noise . . . cut your operating costs. By test and in actual mill installations, the Isomode Textile Pad has proved to be not only one of the most economical mounts, but also one which does a superior job of isolating vibration.

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Please send data sheet containing more information on Isomode Pads and how to install them easily and quickly.

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Reader Service (Continued)

are each recommended for particular uses. **(F-30)**

Power trucks in textile mills are given lengthy discussion in a special pamphlet prepared by Elwell-Parker Electric Co. The uses are in the handling of cotton and rayon in storage, processing, and shipping. Maybe you can get some new ideas. **(F-31)**

Vertical turbine-type pumps are described in a catalog issued by Ingersoll-Rand Co. Available in single or multi-stage construction, the pumps range in size from 6 to 30 in. **(F-31A)**

Steam traps. Air traps. Armstrong Machine Works has prepared a condensed catalog that lists cast semi-steel and forged-steel inverted-bucket traps, compound steam traps, ball-float air traps, Y-type strainers, and internal check valves. **(F-32)**

An adjustable-speed drive for full-fashioned hosiery machines is shown in a folder put out by Westinghouse Electric Corp. The new drive is said to save maintenance and to make fast, accurate speed changes. The drive needs no lubrication. **(F-33)**

Chain drives and conveyors, their installation, operation, and maintenance, are discussed in bulletin published by Chain Belt Co. The booklet is based on the theory that no chain will give total satisfaction unless it is properly installed and operated. **(F-34)**

Battery-charging equipment is featured in a folder issued by The Electric Products Co. Any lift-truck operator is said to be capable of operating the equipment. No manual attention is required of the charger in operation. **(F-35)**

Standard screw products—as contrasted with special orders—are described in a booklet prepared by Standard Pressed Steel Co. The booklet tells about socket-head cap screws, set screws, set-screw points, shoulder screws, stripper bolts, pressure plugs, screw keys, and dowel pins. **(F-36)**

Automatic lap delivery at Borden Mills is pictured and described in a publication available from The American Monorail Co. The system, from pickers to cards, is said to have reduced handling costs and to result in better laps. **(F-37)**

Magnesium and its uses—that's what a booklet published by The Magnesium Assn. is about. A schematic diagram also shows how magnesium is produced from sea water. **(F-38)**

Ball-bearing swivel joints that have chemical and industrial uses are described in a catalog made available by Chiksan Co. Lots of heavy-duty plumbing equipment is shown and described. **(F-39)**

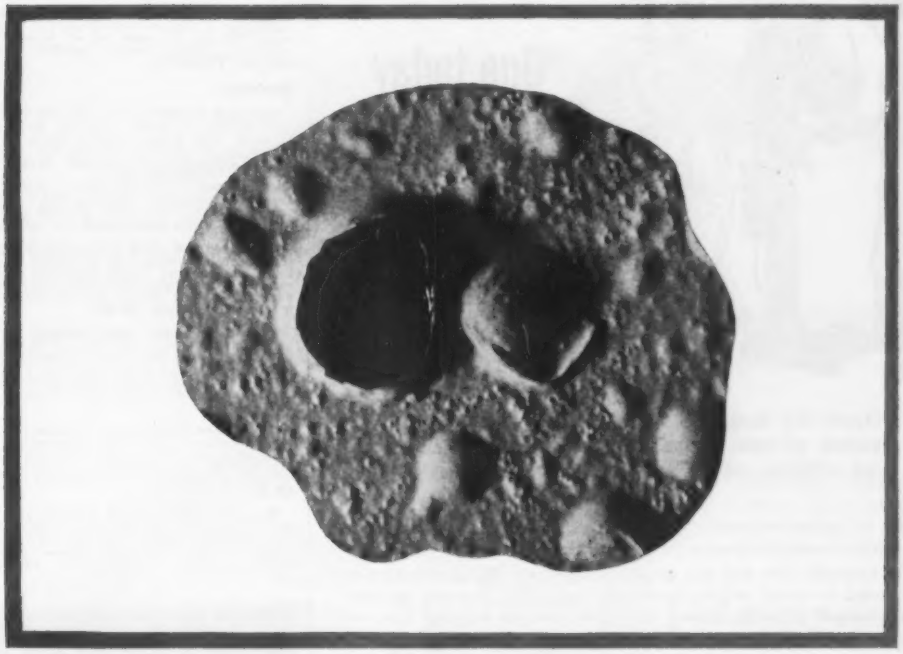
Steam, air, and gasoline traps. This booklet gives capacity tables, installation diagrams, and help in selecting the proper trap for some specific applications. W. H. Nicholson & Co. is making the catalog available to TW readers. **(F-40)**

A cotton-bale clamp is one of the accessories for a fork truck described in a bulletin from The Baker-Raulang Co. Several other accessories—such as the scissors clamp and the extra-lift attachment—may have a use in your plant. **(F-41)**

Is vibration bothering you? American Felt Co. has made up a booklet that tells how to select the right grade and weight of vibration mounting felt. Up to 85% reduction in transmitted vibration is claimed in test results given in the booklet. **(F-42)**

Motor controls that are explosion-proof and weather-proof are described in a folder issued by The Arrow-Hart & Hegeman Electric Co. Dimensions, weights, ratings, and wiring diagrams for these magnetic starters are given in the folder. **(F-43)**

Steel strapping that is said to be lighter and have highest seal-joint effi-



A Penny Saved is a Penny Earned?

Not always! Here's a quick picture of the "saving" of a few pennies on a protective coating! Here's a close-up of the costly corrosion that results!

When it comes to protecting your equipment against chemical attack — don't be "penny wise and pound foolish". Use a truly chemical-resistant coating. Use TYGON "Series TP" PAINT.

In textile mills, TYGON PAINT does an excellent job of protecting such equipment as wash tanks, kiers, steeping tanks, mercerizing units, "jigger machines", dye vats, continuous dye machines, filters, pumps, and piping against corrosive fumes and spillage. Structural steel, walls, and ceilings also benefit from TYGON protection.

Sulfuric acid, chlorine and bleaching solutions, salt, caustic soda, soda ash, iron sulphate, stannic chloride, sodium silicate, malt, tannin, resorcine, diazo compounds and animal or vegetable oils, fats and greases are a few of the textile chemicals resisted by TYGON.

Available in a wide range of colors, TYGON PAINT is easily applied and quick drying — requires no more than normally good surface preparation. Once dry, its film is tough, smooth, flexible and non-flammable. It's easy to clean and seemingly ageless, too.

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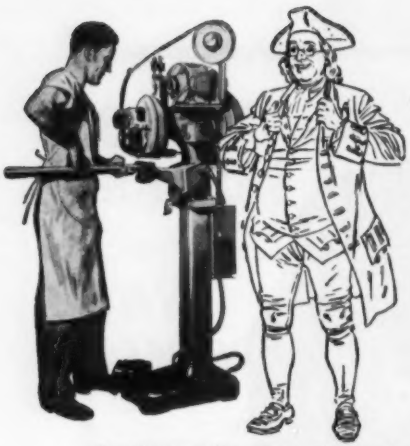


"One today is worth two tomorrows."

—Ben Franklin's Almanac, 1757

Experts may disagree on the course of ye economy tomorrow, yet none disputes the healthful effect of thrift and efficiency on ye net profit after taxes today.

—Acme Steel Notebook, 1951

In spite of current shortages of some steel products, you have the opportunity to achieve greater thrift and efficiency—*today*.

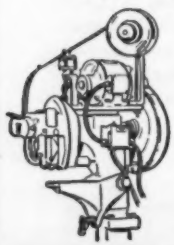
For example: you still can get Acme-Morrison Metal Stitchers to fasten metal to metal or to non-metallic materials. You can use wire stitches instead of rivets, screws, nails, bolts or spot welding. You can save substantially in time and money by doing so.

Acme Steelstrap and Acme Silverstitch box stitching wire—so vital to thrifty and efficient packaging, shipping and materials handling—are still subject to an enormous military and civilian demand. But you can still work with your Acme Steel representative on ways to increase efficiency and eliminate waste, thus stretching the supply available to you.

In these important tasks, we are ready and willing to help you *today*—the way we have been helping Acme Steel customers for 71 years.

ACME STEEL COMPANY Dept. TEX-101, 2838 Archer Avenue, Chicago 8, Illinois

Write if you do not know your nearest Acme Steel Service Office—located in 41 principal cities of the United States and Canada.



5 things you can do to keep your Acme-Morrison Metal Stitcher on the job!

1. Clean and oil every day.
2. Never operate stitcher without material in stitching position.
3. For perfect stitching, check work regularly. If in doubt about any operating difficulty, refer to service manual (additional copies sent upon request) or submit stitched material, identified by machine type and serial number, to Customer Service Department, Acme Steel Company.
4. From time to time moving parts need replacement—keep a supply on hand to make quick, minor replacements.
5. Ask us about the Acme Steel "3-WAY SERVICE PLAN" for equipment repairs.

ACME STEEL CO. CHICAGO

ACME STEEL

Acme Steel employees on December 31, 1950, numbered 4,098 men and women, an increase of 8.18 per cent over 1949. Monthly employee turnover average in 1950 was only 1.7 per cent in spite of the growing manpower needs of the armed services.

ACME STEELSTRAP flat steel strapping and ACME UNIT-LOAD carload bracing BAND, SEALS and TOOLS • ACME SILVERSTITCHERS and ACME SILVERSTITCH WIRE for box stitching • ACME-MORRISON METAL STITCHERS and BOOK STITCHERS • ACME-CHAMPION BAG STITCHERS • ACME HOT AND COLD ROLLED STRIP STEEL • ACME GALVA-BOND steel slat stock for Venetian blinds • ACME STEEL SPECIALTIES, including hoops, corrugated fasteners, barbed box straps, nail-on strapping and other container reinforcements • ACME STEEL ACCESSORIES—snips, tool mounts, reel stands, coil holders, coil trays.

Reader Service (Continued)

ciency is described in a bulletin published by Allegheny Steelband Co. The strapping can be used on all types of packages, belts, boxes, bundles, and pallets. **(F-44)**

GENERAL

Sh'pping by air? You'll like the rapid rate estimator made avaliab'e by Air Express. The gadget, shaped like a propeller, gives the cost of shipping when weight and mileage are known. **(F-45)**

Aluminum. Characteristics, product forms, applications. Research and development. How it is made. A book made available by Reynolds Metals Co. **(F-46)**

Cork products—both compositions and the natural product—are described in a bulletin issued by Dodge Cork Co. The information includes physical properties, sheet sizes, and equivalents of government specifications. **(F-47)**

Projection and magn'fication are achieved on a device described by George Scherr Co., Inc. The Micro-Projector is ideally suited for small metal or other solid parts. And it can also be used as a gauge to quickly check their accuracy. **(F-48)**

Rubber and plastics—as we know them in this polymer age—are discussed in a folder prepared by Foster D. Snell, Inc. The bulletin summarizes the company's services to clients in the polymer field. **(F-49)**

Tabulated sales control figures can be obtained easily, according to a booklet issued by Remington Rand Inc. The only manual operation in the procedure is the original punching of the cards. **(F-50)**

Useful Accessories For Textile Mills

► To request further information on any item, please use the card in the Reader-Service dept.; refer to the number at the end of the item concerned.

Maintenance

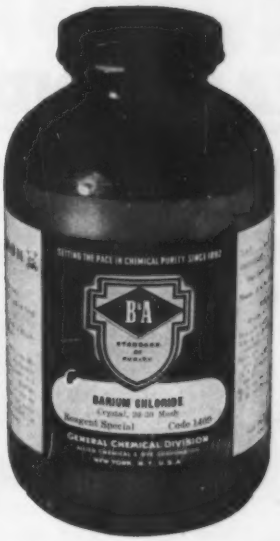
Mixing-Tank Cleaner

A new method for cleaning paint, size, and coatings mixing-tanks has been developed by Magnus Chemical Co., Inc., South Ave., Garwood, N. J. The method involves treating the tank with a solution of Magnus 61XX, an alkaline stripping agent with added wetting and penetrating action. The solution is then heated to 200° to 212° F. and is agitated overnight. Tests made on the new method report savings in labor, time, and cost compared to older methods of cleaning. Stubborn, dried-out coatings are said to be removed in a short time without chisels or hammers. (U-1)

Mountable Battery Charger

A new motor-generator-type battery charger, designed for mounting on balconies or shelves, has been announced by

3 reasons why you should specify B&A reagents!



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B&A has over 1,000 laboratory chemicals for you to choose from.

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FINE CHEMICALS

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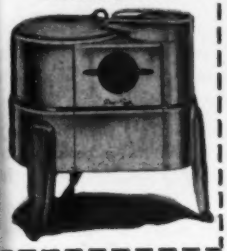
SETTING THE PACE IN CHEMICAL PURITY SINCE 1882

* Complete stocks are carried here.

THIS LUBRICANT SAVES GEARS AND TRANSMISSIONS

—says
AUTOMATIC WASHER COMPANY
Newton, Iowa



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"We have used LUBRIPLATE in our washing machine transmissions since 1933. Our laboratory tests as well as field experience indicate that through the use of LUBRIPLATE we reduced the wear on the gears and prolonged the life of the transmission.

"The transmission is the heart of any washing machine, and the long life and trouble-free performance obtained by the use of LUBRIPLATE in the Automatic Washer transmission has been an important factor in the success of our product."

AUTOMATIC WASHER COMPANY
F. Breckenridge
Executive Vice-President

The use of LUBRIPLATE in a washing machine is a severe test. Bearings and parts are subjected to moisture, hot water, caustics and sometimes acids. A lubricant to give efficient lubrication under these conditions must be an unusual product.

LUBRIPLATE Lubricants reduce friction and wear, prevent rust and corrosion, save power. Because LUBRIPLATE Lubricants *last longer, they are more economical to use.*

Let us send you CASE HISTORIES of the use of LUBRIPLATE Lubricants in your industry. There is a LUBRIPLATE product best for every lubrication need. They range from the lightest fluids to the *heaviest greases. They are different from* any other lubricants you have ever used. Write today for further information.

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Fiske Brothers Refining Company
Newark 5, N. J. Toledo 5, Ohio

DEALERS EVERYWHERE . . . CONSULT YOUR CLASSIFIED TELEPHONE BOOK

LUBRIPLATE *THE MODERN LUBRICANT*

Useful Accessories (Continued)

Small and Medium Motor Div., General Electric Co., Schenectady 5, N. Y. The new unit for charging batteries in driver-lead and small driver-ride industrial lift trucks accommodates lead-acid batteries of 6 to 19 cells and nickel-iron-alkaline batteries of 10 to 30 cells. The unit with a control box on its side weighs only 190 lb. and can be installed in a space 6¾x8¾ in. According to GE engineers, the operation is completely automatic. (U-2)

Non-Conducting Rope

A new safety rope designed to resist water absorption and electrical conductivity has been developed by South-Eastern Cordage, 648 N.B.C. Bldg., Cleveland 14, Ohio. The new Se-Lectric rope was planned for the protection of maintenance and other workers who face electrical hazards. Tests made on the new rope, compared with other treated and untreated manila-rope test results, show that this type of rope has many times more electrical resistance. Ropes tested were showered with water for two hours before the tests. The tests showed also that Se-Lectric manila rope has much greater resistance to water absorption than other types. (U-3)

Materials Handling

Bulk-Materials Stacker

A tightly sealed container for handling, shipping, and storing bulk materials has been developed by Lewis-Shepard Products, Inc., 194 Walnut St., Watertown 72, Mass. The new "Jackstacker" is made in telescopic and non-telescopic models with a capacity for 4,000-lb. loads up to 48 in. long. It is designed especially for handling tote bins. Fork elevation of 77 in. on the telescopic model can easily double-deck the tote bins in storage areas. All speed and operating controls are in the handle head and can be operated with the handle in any position, including vertical. (U-4)

Robot Door Operator

A new robot operator for doors and gates has been announced by Robot Appliances, Inc., 13,165 Prospect Ave., Dearborn, Mich. Model CA-300 is designed for sectional overhead doors on industrial buildings and warehouses. Doors can be operated by standard three-button remote switches or by magnetic remote control from cars or trucks and operated by the drivers while the vehicle is in motion. The door opens at the touch of a button and can be stopped at any desired point, or it may be closed or locked. (U-5)

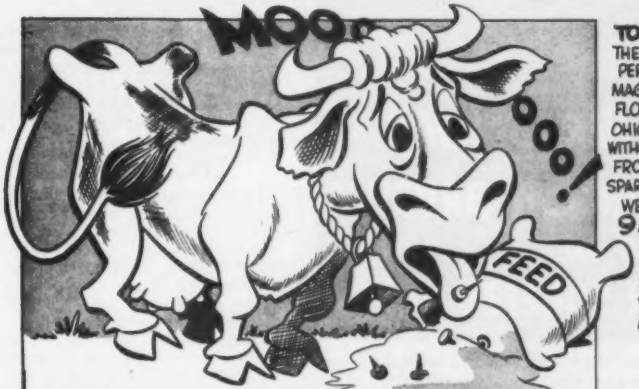
Engineering

High-Temperature Insulation

A fibrous silica insulation, originally developed in batt form, has been announced by H. I. Thompson Co., 1733 Cordova St., Los Angeles 7, Calif. The insulation, called Refrasil, is said by the manufacturers to be well adapted for use in all types of thermal and electrical insulation. Braided Refrasil sleeving is said to be especially useful where flexibility is needed. It is not affected by continued exposure to high temperature under normal operating

ERIEZ MAGNETIC ATTRACTIONS

ERIEZ MANUFACTURING CO., ERIE, PA., U.S.A. • PRODUCERS OF MAGNETIC SEPARATORS AND SELLERS OF (RQ) ELECTRONIC METAL DETECTORS



IT'S A FACT...734,254 BEEF LIVERS AND 5956 CARCASSES WERE CONDEMNED IN A YEAR BECAUSE OF ABSCESS AND PERICARDITIS CAUSED BY ***TRAMP IRON*** IN CATTLE FEED. LOSS...OVER 3 MILLION DOLLARS! ***ERIEZ ATOM***AGNETS FIGHT THIS BECAUSE THEY WON'T LET TRAMP IRON PASS.

TO KEEP THE WALLS UP THEY USED ***ERIEZ*** PERMANENT PLATE MAGNETS IN GRAVITY FLOW CHUTES AT AN OHIO CHEMICAL PLANT. WITHOUT THIS PROTECTION FROM TRAMP IRON SPARKING, EXPLOSIONS WERE SO FREQUENT.... 9 A DAY AVERAGE.... THAT THE WALLS WERE MADE TO FALL OUTWARD AT THE SLIGHTEST BLAST TO AVOID MAJOR DAMAGE!

..... SINCE INSTALLATION..... **NO EXPLOSIONS!**

YOU DON'T HAVE TO BEAT THIS DRUM ...FOR RESULTS. THE ***ERIEZ*** MAGNETIC *DRUM* AUTOMATICALLY REMOVES STRAY IRON.... SOME DANGEROUS TO MACHINERY.... SOME THAT CAN BE SOLD. *USED IN EVERY INDUSTRY!*

FIVE DOLLARS SAVED A YEAR FOR EACH DOLLAR INVESTED... THE RESULT OF ***ERIEZ*** MAGNETIC HUMP SEPARATOR INSTALLATIONS AT A SOUTHERN TEXTILE PLANT...***WOODSIDE MILLS.*** AVERAGE NUMBER OF FIRES *BEFORE* ***ERIEZ*** HUMPS WERE IN...12 PER YEAR! *AFTER INSTALLATION.....* NO FIRES...NO PRODUCTION DELAYS!

RETURN THIS COUPON.

ERIEZ MANUFACTURING COMPANY
501 EAST 12TH STREET, ERIE, PA.

MY CONTAMINATION OR SEPARATION PROBLEM IS:

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_____

PLEASE SEND LITERATURE ☐

HAVE REPRESENTATIVE CALL ☐ PROMPTLY ☐ WHEN IN AREA

NAME _____

TITLE _____

COMPANY NAME _____

STREET _____

CITY _____ ZONE ___ STATE _____

81-J

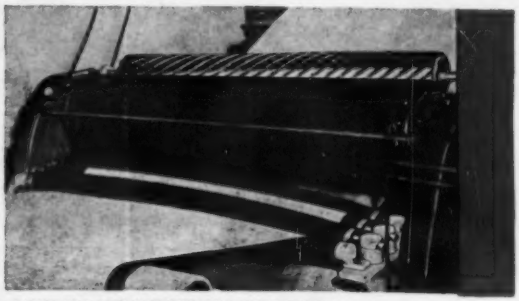
HERE'S WHY
JENKINS' METLKOR® BRUSHES
are on
JAMES HUNTER SQUEEZE ROLLS

James Hunter Machine Co., North Adams, Mass., wanted a brush to stand up when removing acidified flock from their Carbonizer Squeeze Rolls. Jenkins' engineers designed a METLKOR brush with exposed metal parts of stainless steel and bristle of acid-resistant Nylon.

Mr. Frank B. Morrill, Chief Engineer, James Hunter Machine Co., says: *". . . we have been using Jenkins' brushes for flock removal on our Squeeze Rolls for about three years . . . They do a much better cleaning job than the brush previously used, and stand up several times longer . . ."*

This top textile machinery manufacturer has time-tested and proven the efficiency of patented Jenkins' METLKOR—the cylinder brush that lasts *many times longer* and *can be rebristled!* It can cut your brush replacement costs and do a better job, too.

If you have any standard or special brush problem, call or write: M. W. Jenkins' Sons Inc., Cedar Grove, Essex County, New Jersey.



A JAMES HUNTER CARBONIZER SQUEEZE ROLL
WITH A JENKINS' METLKOR NYLON BRUSH

M. W. JENKINS' SONS, INC.

74 YEARS OF INDUSTRIAL BRUSH KNOW-HOW

Cedar Grove, Essex County, New Jersey

Useful Accessories (Continued)

conditions. The essential physical properties of the insulation are chemical resistance and high temperature resistance. (U-6)

New Water De-ionizers

A single-tank de-ionizer of mixed-bed, monoflo design has been announced by Elgin Softener Corp., 134 North Grove Ave., Elgin, Ill. The Elgin "Ultra" de-ionizer is said to give up to 44% more capacity and produce water of the highest known chemical purity, free from all ionizable impurities, including carbon dioxide and silica. The de-ionizer is designed to replace distillation or evaporation and to do it at a much reduced cost. The equipment requires little space, and the double-check design prevents loss of valuable ion-exchange resins. (U-7)

Synthetic-Rubber Lattices

Four new synthetic-rubber lattices made to meet specific requirements have been announced by the Chemical Div., Goodyear Tire & Rubber Co., 1144 Market St., Akron 16, Ohio. The new additions to the company line of series-235 Chemigum lattices are described as "aqueous dispersions of butadiene-acrylonitrile copolymers designed particularly for use in coating, impregnating, and compounding applications requiring unusual adhesion or resistance to oils, greases, alcohols, glycols, and most solvents." (U-8)

Accessories

Dye-Type Transformers

A new line of general-purpose, dry-type transformers has been announced by General Electric, Specialty Transformer & Ballast Div., Schenectady 5, N. Y. The new design features class-B insulation and provides smaller transformers for single-phase, 60-cycle operation. According to GE engineers, an average weight reduction of 30% has been made throughout the line, and some models actually weigh less than half as much as the units they replace. These weight advantages are said to be obtained through the use of improved core steels and increased amounts of inorganic insulating materials. (U-9)

General-Purpose Pumps

A new line of general-purpose centrifugal pumps has been announced by Economy Pumps, Inc., Div. of Hamilton-Thomas Corp., Hamilton, Ohio. Described as extremely adaptable, the new type-SCC pumps are said to be well suited for any small-pump application, such as small cooling towers, water supply, hot-water-heating systems, booster and process pumping, and other uses. The SCC pumps are of a close-coupled type designed for long, leak-proof operation that will eliminate the need of frequent adjusting or repacking. Motors are a standard open-drip type. (U-10)

Improved Temperometer

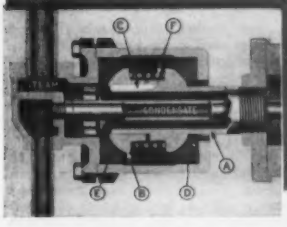
An instrument for checking the exact temperature of molten babbitt metal, solder, lead, and similar metals has been announced by W. C. Dillon & Co., Inc.,

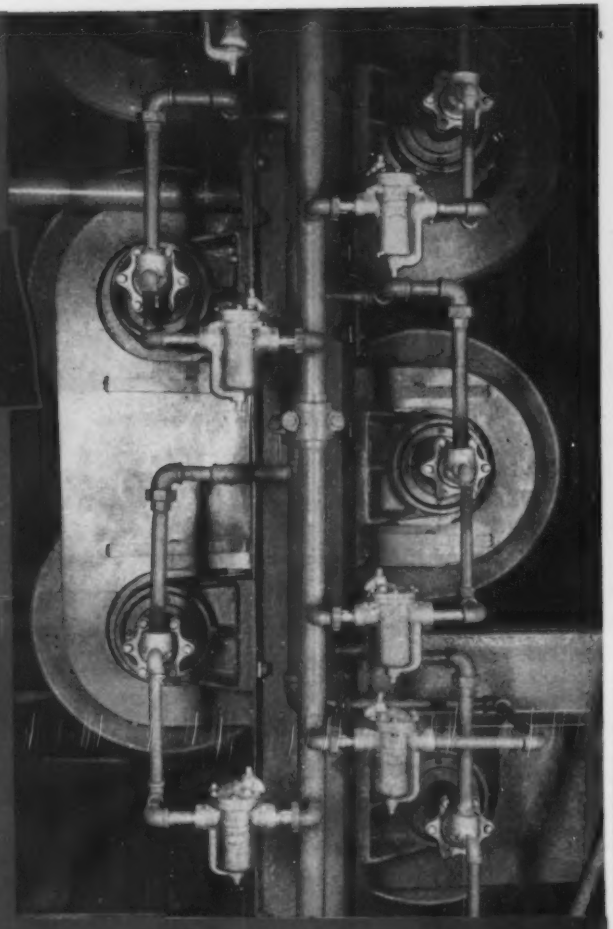
THOUSANDS
of Dry Cans Equipped with
JOHNSON *Rotary Pressure* JOINTS

Fast becoming an accepted RULE of smart operation, Dry Cans, Sanforizers, and Slashers equipped with Johnson Joints quickly prove their superiority.

Up-keep expense tumbles due to less trouble, repairs, and wear; important man-hours are saved; production jumps because down-time is reduced. These features are possible because Johnson Joints end the troubles inherent in ordinary stuffing boxes: they are completely trouble-free, self-lubricating, self-adjusting and self-aligning.

"It's agreed" say foremost machinery manufacturers and mill men, "Any machine is a better machine with Johnson Joints." And, to back up their judgment, these leading machinery manufacturers regularly include Johnson Joints as standard equipment. Naturally, we're proud of this confidence and we'd like you to be a user-booster, too.





Johnson Joints on a set of dry cans installed in a southern mill.

Johnson Rotary Pressure Joint

Nipple (A) is connected to roll. Collar (B) is keyed to nipple at (C), but fits loosely so pressure can fill entire housing. Pressure is sealing force, presses seal ring (D) tightly against nipple. Both seal ring and bearing ring (E) are of special carbon-graphite — eliminate all packing or need for lubrication. Spring (F) is for initial seating only.

Type L Johnson Joint

Illustration at right shows Type L Johnson Joint. This design can be used when the bearing housings may be tapped to provide holes for rod supports. Type L assures proper alignment and longer, trouble-free service. All service conditions are covered by a complete range of types and sizes.

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Products of The **Johnson Corporation**

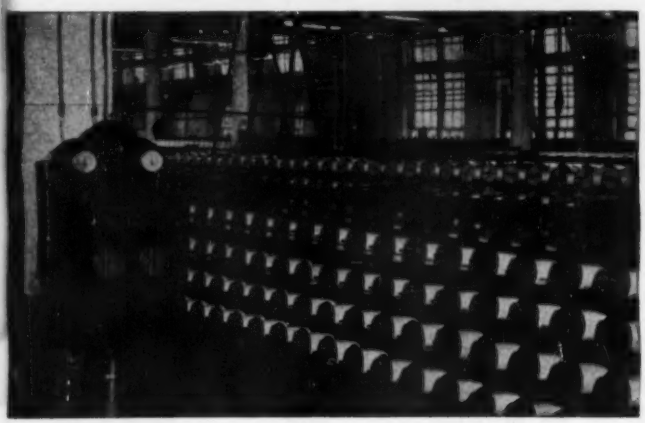
814 Wood Street, Three Rivers, Michigan

Rotary Pressure Joints • Compressed Air Separators and Aftercoolers
Direct Operated Solenoid Valves • "Instant" Steam Water Heaters

Continuous and Graduated Humidification

Gradumatic Humidification

Controlled by the improved Certified Climate Psychrostat, Gradumatic Humidifiers operate continuously whenever moisture is needed.... A mere breath from each atomizer (as little as 2 pounds per hour) *at any time*, or as much as 16 pounds of fog-like vapor from each atomizer, if needed, *some of the time*. But Gradumatic humidification *all the time*.



Parks-Cramer Company

Fitchburg, Mass. PARKS Certified Climate Charlotte, N. C.

Useful Accessories (Continued)

1421 South Circle Ave., Forest Park, Ill. The actuating element of the improved Dillon Temperometer is a bimetallic coil enclosed in a tube. When the tube is placed directly in molten material, a pointer attached to the end of the pointer shaft indicates the temperature on a calibrated dial. The instrument is also said to be useful in checking temperatures of hot oils, waxes, and other materials. (U-11)

New Hoist Binder

A new load binder that works on the ratchet-hoist principle has been announced by Coffing Hoist Co., 800 Walter St., Danville, Ill. The new "Hoist-Binder" is designed to take up or slack off a load-chain any amount up to a full 20¼ in., or more if a longer chain is used in the binder. According to the manufacturer, this ratchet-type binder has many advantages over eccentric-type binders. The ratchet permits tightening or slackening off any amount without releasing the load for a new grab. The new binder weighs only 10 lb. and is said to exert a pull of 3,000 lb. (U-12)

"Safety" Pouring Spout

A safety air-vent pouring spout that fits any size carboy and that is designed to assure an even flow of acid without spurts or splashes has been announced by General Scientific Equipment Co., 27th & Huntington Sts., Philadelphia 32, Pa. The unit is made of acid-resistant rubber and plastic tubing. The spout, with a capacity of 5 gal. per min., eliminates pumping or siphoning and prevents possible injury to workers. (U-13)

Vapor-Cooled Transformer

A vapor-cooled, vapor-insulated transformer designed to be ¼ to ½ lighter than liquid-immersed units of equivalent rating and performance is being developed by Westinghouse Electric Corp., 306 Fourth Ave., Pittsburgh 30, Pa. The new cooling technique utilizes the heat of vaporization of liquid fluorocarbons for cooling and the dielectric strength of fluorocarbon vapor for insulating. Fluorocarbons have been found to have a suitable boiling point and heat of vaporization, a high dielectric strength at low pressure, and great promise for vaporization cooling. (U-14)

Answers to Textile Quiz

On page 190

1. b. TW, Aug., '51, p. 119
2. a. TW, Aug., '51, p. 113
3. c. TW, Aug., '51, p. 113
4. c. TW, Aug., '51, p. 124
5. d. TW, Aug., '51, p. 126
6. a. TW, Aug., '51, p. 131
7. d. TW, Aug., '51, p. 143
8. b. TW, Aug., '51, p. 156
9. c. TW, Aug., '51, p. 123
10. b. TW, Aug., '51, p. 100

Booth

Originators of STRIP-O-MATIC *

CARD CLOTHING NEWS AND VIEWS

PROMINENT PHILADELPHIA MANUFACTURER CUTS STRIPPING WASTE BY ⅔ WITH STRIP-O-MATIC CARD CLOTHING

The Continental Mills, Inc., prominent Philadelphia woolen manufacturer, has reduced stripping waste by more than 2/3 on the breakers they have equipped with Strip-O-Matic* Card Clothing. Continental has been testing Strip-O-Matic for over a year on first-breaker and second-breakers. They do not, however, have a complete set equipped with Strip-O-Matic, so since stripping is required anyway, Strip-O-Matic is usually stripped right along with the other clothing. However, Mr. Charles Messa, carding superintendent, anticipates a considerable saving in down time as complete sets are clothed in Strip-O-Matic; a very considerable saving in stripping waste has already been realized which is especially important with today's high woolen prices. Continental runs a variety of wools including fleece and top, as well as synthetics. In Continental's experience it is frequently possible to skip stripping with Strip-O-Matic as often as two out of three times compared to the conventional clothing.

Note Small Amount of Trapped Stock After 48 Hours Continuous Operation: The clothing is easily cleared with a single pass of the vacuum head.

STRIP-O-MATIC Is Easily Installed!

NO COSTLY METHODS TO PUT ON! . . . Just the usual type of apparatus and trained men accustomed to regular Fillet Clothing!

Moreover, STRIP-O-MATIC offers no difficult operating problems except on extremely short, oily stock.

Because of the cut-down on stripping, your "Strip-Crew" can be employed elsewhere on productive work!

EXPORT BUYERS Save time—money—labor with STRIP-O-MATIC card clothing—now available for overseas sales. Your inquiries invited.

LET STRIP-O-MATIC HELP YOU CUT CARDING COSTS INCREASE PRODUCTION PROVIDE GREATER VERSATILITY

CUT CARDING COSTS with STRIP-O-MATIC—greatly reduced stripping, 50 to 500% longer runs, plus longer life. STRIP-O-MATIC uses stream-lined wire for longer life and greater strength without crowding points. Foundation (clear run) with oil and waterproof plastic face provides strength and flexibility. Stock trapping is eliminated.

INCREASE PRODUCTION with STRIP-O-MATIC two ways: 1. Eliminate all unnecessary down time for stripping. 2. Increased output from normal operation.

A WIDE RANGE OF COUNTS CAN BE RUN on STRIP-O-MATIC. For example, if you are set up for carpet work, you can probably run much finer counts.

PERFORMANCE PROVEN in over 200 textile plants—STRIP-O-MATIC is gaining praise for being different, better and definitely more profitable.

WRITE FOR A COPY OF OUR 8-PAGE FOLDER describing STRIP-O-MATIC benefits in full. We believe you will find it interesting and useful and hope that you will feel free to consult us on any card clothing problem. No obligation, of course.

Sincerely yours,

E. Allen Snape Jr

PRESIDENT

BENJAMIN BOOTH COMPANY, ALLEGHENY AVE. AND JANNEY ST.
PHILADELPHIA, PA.

Booth

not on these machines!

...they're all BIJUR equipped

Each maker of these machines had your best interest in mind when he built-in a Bijur lubricating system. Human carelessness and forgetfulness are eliminated by machines having built-in Bijur lubricating systems. These machines will never be shut down because they lack continous, proper lubrication. Make certain the machine you buy is furnished with a Bijur lubricating system.

Write for Bulletin 6A

BIJUR

LUBRICATING CORPORATION

Rochelle Park • New Jersey

Questions AND Answers

How Much Size on Cotton Warps?

Technical Editor:

What is the normal range of percentage of size put on cotton warps? What are some typical size formulas? (9455)

Size percentages vary from mill to mill, and you can't get two boss slashers to agree with each other, much less with the boss weaver.

Here are a couple of examples that may help you.

	Sley	% size	Count
Mill A	14 to 32	4	30s to 40s
	33 to 44	8	30s
	45 to 64	10	30s
	65 to 80	12	30s
Mill B	29 to 64	8	not given
	65 to 100	10	
	101 to 110	14	

Some typical formulas, based on 100 gal. of water, are:

1. Starch 80 lb.
   Softener 8 lb.
2. Pearl starch 88 lb.
   Softener 5 lb.
3. Thin-boiling starch 76 lb.
   Softener 3.5 lb.
4. Tapioca starch 70 lb.
   Softener 5 lb.
5. Homogenized potato 70 lb.
   Softener 7 lb.

There are also several ready-mixed sizing agents that are used by many mills. Such products eliminate intermediate weighing and mixing.

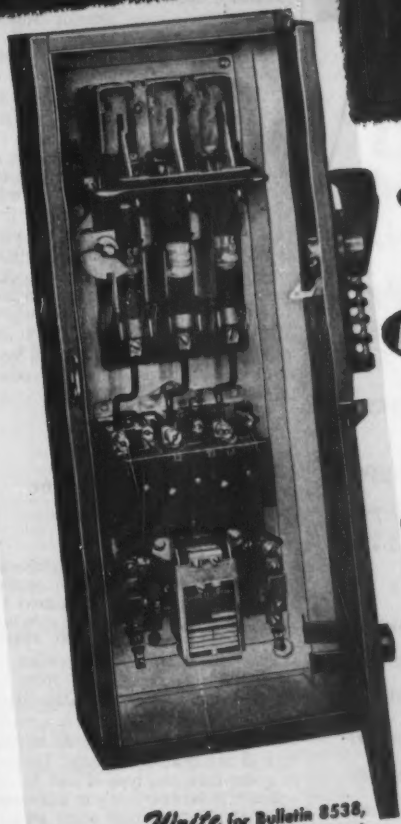
You Can Dye Several Colors On One Skein

Technical Editor:

Can we dye several colors on the same skein? We have heard of such a process and would like you to comment on it. Who makes the machines? (9456)

There are several methods of dyeing more than one color on the same skein of yarn. The first method is an old one and has been used not only on skeins but also on piece goods. This is known as "random" or "tie" dyeing. In this method, the skein is tied into knots and immersed in a dye bath for a very short period. After immersion, the skein may be dried or not, and the knots are retied at different places. It is then immersed in a different dye bath. This process may be repeated

DESIGN LEADERSHIP



THIS NEW SQUARE D COMBINATION STARTER (SWITCH TYPE) offers Greater Operator Safety and Longer Motor Starter Life

NEW ***Switch Operating Mechanism*** provides maximum operator safety. Interlock prevents opening door when disconnect is on. When door is re-closed, self-aligning handle indicates true position of disconnect. Operating handle can be locked on or off with one, two, three or four padlocks of varying sizes. Handle-locking mechanism also locks door.

NEW ***Switch Design*** has quick make and quick break action—no dead center—visible blades for easy checking—magnetic arc plate for high rupturing capacity—dead-front line terminals, protected by hinged arc chamber cover—positive pressure jaws and fuse clips—non-tracking insulation.

NEW ***Features in Magnetic Starter Design*** Square D's time-proven design has always provided easy installation, simple maintenance, and long life. Now, even longer life is assured by straight line, guided motion of armature and movable contact assembly which eliminates bearing and reduces wear. For added convenience and flexibility, Square D starters now have NEMA standard mounting and wiring.

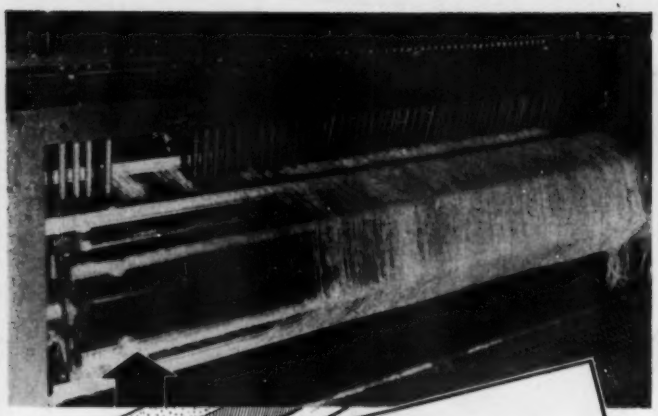
Write for Bulletin 8538, SQUARE D COMPANY, 4041 North Richards Street, Milwaukee 12, Wis.

ASK YOUR ELECTRICAL WHOLESALER FOR SQUARE D PRODUCTS

SQUARE D COMPANY

DETROIT · MILWAUKEE · LOS ANGELES

SQUARE D COMPANY CANADA LTD., TORONTO • SQUARE D de MEXICO, S.A., MEXICO CITY, D.F.



Save

ON QUILL STRIPPER

BRUSH COSTS

TWICE THE BRUSH LIFE WITH FULLERGRIPT

If you use a Terrell Type L Bobbin or Quill Stripper you'll find that Fullergript brush strips will give you at least twice the wear that you get from wood-back tufted brushes. Fullergript strips, because they are packed with a continuous mass of dense brush material do not press down like tufted brushes. And because of the dense packing the brush is stiffer – hence, it catches the yarn better. The brush material is locked in a metal channel and will not fly out. Fullergript strips are easy to install on a Type L Bobbin Stripper Reel. For complete details, write today to . . .

FULLER BRUSH FULLERGRIPT At home... in business, too

THE FULLER BRUSH CO., INDUSTRIAL DIV., 3594 MAIN ST., HARTFORD 2, CONN.

Questions and Answers

(Continued)

several times so that multicolored effects are produced on the skein. Usually, direct dyes or soluble colors having affinity for the particular fiber are used. The method is called "random" since it is not possible to reproduce exactly the same pattern from skein to skein.

Another method by which an effect may be reproduced more exactly is with the use of blocks. Wooden blocks of different sizes and shapes may be clamped tightly across a skein of yarn. The skein is then immersed in the dye bath so that the exposed portion is dyed. The part of the skein between the clamps remains undyed. After the first dyeing, the position of the blocks may be changed and the skein again immersed in a dye bath of a different color. This process, too, may be carried on until the desired effect is reached.

We understand that these types of dyeing are carried out almost entirely by hand, and we are not familiar with any machine on which dyeing of this sort may be done. Of course, if a yarn is made of two or more fibers, either blended or twisted together, multicolor effects may be obtained in any conventional skein-dyeing machine, by selecting those colors that have the greatest affinity for each fiber and have the property of not staining any other fiber. This operation can be carried out in a single dye bath.

Conditioning Rooms For Cotton Yarn

Technical Editor:

What is the best type of conditioning room for us? We make cotton knitting yarn and want to ship at the correct regain. Are the small conditioning units better than the large, slower ones? (9457)

One of the latest developments in setting up a conditioning room is based on the unit system. Depending upon the quantity produced, a room can be engineered and designed to take care of any quantity of yarn. Instead of going from one type of unit to another, it is necessary only to add more units of the same type when greater quantities of yarn are being conditioned. For example, if production is small, say around 4,000 lb. or less per day, a single unit might be all that would be necessary.

If production is larger, instead of changing from one type to another, all that is necessary is to add one or more units. Room size will have to be increased accordingly, of course.

In order to properly lay out a con-

BRINTON

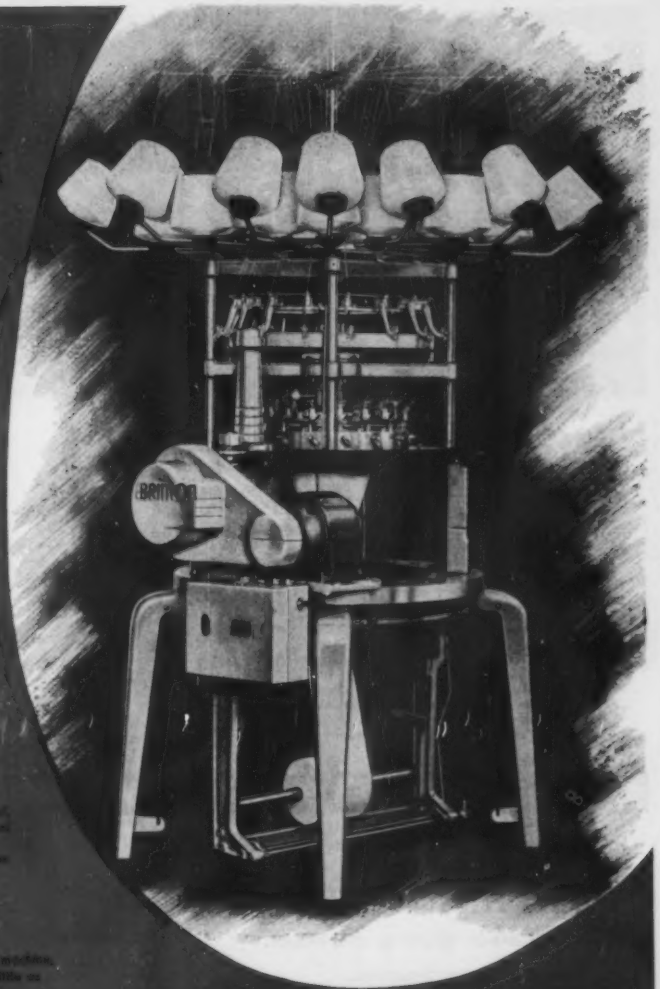
MODEL MULTIPLEX

STYLE RM-5S

Knitting Machine of the Mid-Century

BRINTON'S NEW DESIGN FOR BETTER PRODUCTION

Engineered features of Model Multiplex are:



In this, Sir, Machine [illegible] engineering techniques are combined with the ideas of the modern industrial designer. Here is a [illegible] fusion of the large diameter knitting machine.

Brinton research, craftsmanship and [illegible] worked to produce a machine that gives higher [illegible] better quality of knitted cloth. [illegible] achievement, a machine with many features, positive [illegible] and mechanical advancements.

BRINTON

CIRCULAR KNITTING MACHINES

Over 1,000,000 Spindles

EQUIPPED WITH REGNERY ADAPTERS

Because Your present spindles can be easily converted for sleeve type spinning.

Because The tried and proven conventional type of standard base, bolster and spindle with a wonderful record in many mills of 20 years or more of low cost operation and maintenance has a larger package and improved spinning with the Regnery Adapter.

Because Conventional spindles with Regnery Adapters balance out any other paper tube spinning in the mill.

Because A standard spinning bobbin can be used throughout the mill when filling spindles are converted with Regnery Adapters for use on a rewind operation.

THESE ARE THE ESTABLISHED FACTS!

1. More yarn per bobbin.
2. A smoother spinning unit.
3. Less ends down with better quality work.
4. Less waste in spooling operations.
5. A more uniform traverse.
6. A trouble-free, permanently "locked in" spindle and adapter.
7. A saving in doffing and spooling costs.
8. Lower bolster replacement costs.

LOWER YOUR PRODUCTION COSTS with REGNERY *ALUMINUM SPINDLE ADAPTERS*

Modern TOP drive adapters for the tapered or parallel bobbins can be installed in your mill quickly and easily to your specifications.

CONCENTRICITY IS OUR BUSINESS

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F. L. REGNERY CORP.

Spindle Adapters · Production · Engineering

613 WEST 16TH STREET • CHICAGO 16, ILLINOIS

Questions and Answers

(Continued)

ditioning system, specialized engineering ability and knowledge is required. The various manufacturers of air-conditioning equipment are in a position to supply such a service, and we recommend that you consult them for specific details.

Conditions That Promote Mildew On Yarns

Technical Editor:

Is mildew more likely to form on a yarn with high regain or on a relatively dry one? What conditions generally promote mildew? (9458)

Mildew is more apt to form on yarns having a high moisture regain than on those having a lower moisture regain.

This statement applies to those yarns that are of such a chemical nature that they offer nourishment to the mildew-promoting organisms. Cellulose is, of course, commonly attacked by the various bacteria, yeasts, and fungi. Those fibers containing nitrogen are also susceptible to the same attack. Almost any organic substance, under favorable conditions, can be damaged or destroyed by the growth of fungi. Molds or fungi growths need warmth, moisture, and usually darkness for rapid development.

It has been stated that a moisture content as low as 7.5% would be sufficient to promote mildew. However, rapid growth of the microorganisms and deterioration of fibers usually requires a moisture content of about 20 to 25%. Low temperatures retard fungi growth. A temperature of 70 to 85° F. is considered favorable for the spread of the microorganisms.

Homogenized-Size vs. Thin Boiling Starch

Technical Editor:

How do homogenized sizes compare with thin-boiling starches in actual mill production runs? (9459)

Mills report a 10% reduction in the quantity of size used after changing from thin-boiling to homogenized pearl. There is also a saving in the cost of the two products.

But there are still some questions to be answered along this line. For instance, mills say that they size more yarn per gallon of size and still get the same weight of starch on the slashed yarn.

Can anyone help us to answer this one?

WHY

AN EASY ROAD TO VAT FASTNESS

are water soluble esters of vat dyes. They produce the same brilliant shades and have the same fastness properties as the parent vat dyestuffs from which they are derived. On cotton and rayon they are more level dyeing and have better penetration than ordinary vats. Prints are smoother and clearer than normally applied vat dyestuffs. On wool Algosols have superior light and wash fastness without impairment to the quality of the wool. The method of applying Algosols is simple and inexpensive.

COTTON

Mercerized cotton piece goods of construction otherwise difficult to color, have outstanding smoothness and penetration when dyed with Algosols. The shades of colored yarns used for cross-dyed effects in striped coatings, etc. are not affected when cross-dyed with Algosols. Mercerized and other types of cotton yarn dyed in package dyeing equipment are uniform, evenly colored from surface to center and free from crossovers.

WOOL

Suitings dyed with Algosols have excellent fastness properties even in light shades. Blankets and knitting yarns have outstanding fastness to light and washing. Algosols are recommended for dyeing slubbing and yarns in circulating machines. Shrink-proofed wool dyed with Algosols has excellent fastness to light and repeated washings. Wool can be dyed with Algosols without impairment to the quality of the wool.

RAYON

Rayon piece goods composed of filament, spun rayon or filament-spun rayon yarn when dyed by the continuous method or on the jig have solid, clear shades and excellent fastness. Rayon skeins are easily dyed on the 'Cascade' type machine. Algosols are excellently suited for dyeing packages and cakes in pressure dyeing equipment.

PRINTING

In roller, screen and resist printing prints are smoother and colors clearer than the normally applied vat dyestuffs from which they are derived. Algosols have excellent light and wash fastness and do not crock. Sloth printed deeper fabrics have smooth grounds with excellent fastness to light and washing. Algosols are ideal companion colors for Rapidogens and Fast Color Salts.

MIXED FIBERS

Suitings and dress goods of spun rayon and wool blends dyed in solid shades meet all fastness requirements. Special effects can be obtained on cotton-wool and rayon-wool mixtures by dyeing the wool and leaving the cellulosic fibers undyed or on viscose-acetate blends the viscose can be dyed fast color and the acetate dyed to yield two-tone effects.

COST

The simplicity of application, saving in time, lower cost of chemicals, superior dyeing and printing results offset any increase in dye cost over ordinary vats in light and medium shades. Not infrequently Algosols prove cheaper in light shades.

✓ **DELIVERIES** To insure prompt deliveries stocks are carried in warehouses strategically located throughout the country.

Technical information, product samples and the service of a highly trained technical staff are yours for the asking.

GENERAL DYESTUFF CORPORATION

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Inc.

Factoring Service

Puts your sales on a cash basis
Strengthens your cash position
Relieves you of credit losses

55 MADISON AVENUE • NEW YORK

Books of Interest

Basic Text for Dyers and Printers

THE CHEMICAL TECHNOLOGY OF DYEING AND PRINTING, Vol. II, by Dr. Louis Desirens; Reinhold Publishing Co., 330 West 42nd St., New York 18, N. Y.; cloth, 446 pages, $12.

Included in this second volume on the application of textile dyestuffs are groups omitted in the first volume. Vat, sulphur, indigosol, and azo and chrome dyes and their auxiliaries were discussed in the previous volume. Substantive, basic, acid and pigment colors, aniline black, and dyestuffs for acetate rayon and man-made fibers are included in this companion book. Featured is the chemistry of the various reactions that take place on the various fibers. Discussed also are the make-ups of proprietary textile auxiliaries in reference to their applications. Processes are explicitly described. Included in many cases are explanations of the steps discovered in the past that have led to present formulations and methods. Immunized fibers and even plissé and calendering effects are covered.

The text includes formulas, tables at the end of each chapter, bibliographic and patent references, and the usual index in the back.

Source of Ideas For Fabric Designers

A HANDWEAVER'S PATTERN HANDBOOK, Revised Edition, by Marguerite Porter Davison, Box 299, Swarthmore, Pa.; cloth, 217 pages, $7.50.

Here is a handsome revision of a handweaver's guide and source of inspiration first published in 1944. It includes more patterns and photographs (over 1,200) and is more judiciously laid out than its predecessor. Four-harness patterns, some original and some from sources from afar, are the only type described. Each design has a simple draft diagram beside it for visual aid in duplicating the pattern.

Commercial textile designers might find this book a source of new ideas for more than one professional layout.

1951 Revision Of Wool Directory

SKINNER'S WOOL TRADE DIRECTORY OF THE WORLD, 1951, by Thomas Skinner & Co. (Publishers) Ltd., 111 Broadway, New York; 330 Gresham House, Old Broad St., London E.C.2.

BASIC FACTS ABOUT MODERN MATERIALS HANDLING

HOW IT WORKS — WHAT IT DOES— WHAT IT SAVES

Study of major importance to business and industry is made available by CLARK

A practical, profitable way to produce more goods with the same amount of human effort, is presented simply and graphically in a new booklet offered by the Industrial Truck Division of the Clark Equipment Company, of Battle Creek, Michigan.

This booklet points up technological advances in materials handling operations that are effecting extraordinary benefits for industry—such as faster production, increased economy and efficiency, improved human relations, lower accident and damage rates, quickened distribution and substantial cash savings. Simply and directly it describes tested and proved means to help speed up and perfect the imperative integration of a military and a civilian economy

2-BILLION SAVING POSSIBLE

Concretely, this study points up a quick and certain way for Industry to save some $2,000,000,000* annually at a time when the country, faced with a rearmament program of 50 billions a year for at least three years, is in desperate need of every possible mechanical aid to save time and speed production. Many advantages in other directions, not reckoned in dollars and cents, will be recognized at once by every reader

This new CLARK study is neither fancy nor complex. It is a well-illustrated, simply-written exposition of the sound and sensible fundamentals on which modern materials handling techniques and practices are based. It describes ways and means of getting the most out of fork-lift trucks, powered hand trucks and industrial towing tractors, at the least possible cost. For the many businesses which have not yet adopted modern handling methods and machines, the booklet will be found invaluable. For the thousands of progressive businesses already employing modern methods and machines, it is just as valuable as a check against omissions, abuses and opportunities for full achievement of production goals and potentials.

SEND FOR YOUR COPY

To get a copy of "*Basic Facts About Materials Handling*" fill out the coupon, attach it to your business letterhead and mail it to the *Clark Equipment Company, Industrial Truck Division, Battle Creek, Michigan.* If you want additional copies for key personnel, they are available in reasonable quantities.

**Materials Handling Case Book; McGraw-Hill Book Co., Inc. 1951*

CLARK ELECTRIC AND GAS POWERED FORK TRUCKS
AND POWERED HAND TRUCKS — INDUSTRIAL TOWING TRACTORS

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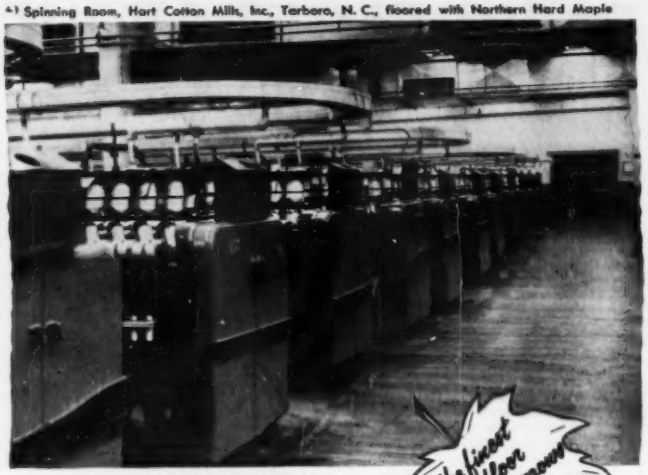
+) Spinning Room, Hart Cotton Mills, Inc., Tarboro, N. C., floored with Northern Hard Maple



the finest floor that grows

NORTHERN HARD MAPLE

comes by its 10 big superiorities

NATURALLY

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● When Nature evolved Northern Hard Maple she practically "made it to order" for textile mill floors. She didn't leave out a single one of the good qualities you prize.

Check them over. There's *comfort*, to reduce your workers' fatigue—comfort that comes from maple's *resiliency*, its warmth and dryness, its cheerful brightness. There's high *efficiency* in its smooth, tight surface that creates no dust, catches no lint, cleans by simple brushing, speeds plant traffic. There's true *economy* in MFMA Northern Hard Maple's non-splintering, close-grained toughness, its resistance to dents and scars of pointed impact, the way it fights scuffing and abrasion and responds to re-surfacing with new-day brilliance and beauty. Your engineers know all this well. And there's a reliable source of this "finest floor that grows" near your location.

See Sweet's

Arch. 13i/MA for specification data, or write—

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CHICAGO 1, ILLINOIS

FLOOR WITH *NORTHERN* HARD MAPLE
BEECH AND BIRCH

Books of Interest (Continued)

England; cloth, 1,373 pages, $10, 45 shillings abroad.

Information on developments that have taken place in the last 12 months is included in this latest edition of an old *stand-by in the international wool and* wool-products field. Data are included this year from 81 countries. By means of indexing and cross-referencing, any search for information by name or occupation of the firm or individual has been made fairly simple. *General information data include* such items as the world sheep population, wool production, price quotations over the *past 20 years, British imports and exports* of wool textiles, and wool-organization and trade-union set-ups.

Helpful Handbook For Report Writers

CLEAR WRITING FOR EASY READING by Norman C. Shidle; McGraw-Hill Book Co., 330 West 42nd St., New York 18, N. Y.; cloth, 176 pages, $3.

The ability to get one's ideas off a written page into a reader's mind comes with practice. This book contains many down-to-earth principles and procedures to follow if one wants to improve the arrangement of his ideas and have his report writing, or any other kind, more effective. Good and bad examples from actual everyday writing, much of it of a technical nature, are given. Anyone who hopes to influence others by the written word (via reports, memoranda, letters, or articles) should have a book of this nature on his reference shelf.

AMA Discussions In Pamphlet Form

PLANNING FOR PEAK PRODUCTION, with a Section on the Impacts of the Wage Freeze, Production Series No. 197; paper, 47 pages, $1.25.

PRACTICAL METHODS OF MANAGEMENT DEVELOPMENT, Personnel Series No. 137; paper, 32 pages, $1.25.

TOOLS FOR IMPROVED PERSONNEL RELATIONS, Personnel Series No. 140; paper, 44 pages, $1.25.

EXECUTIVE COMPENSATION: COMPANY POLICIES AND PRACTICES, with a Paper on the Economic Effects of the Rearmament Program, Financial Management Series No. 97; paper, 32 pages, $1.25.

The American Management Assn., 330 West 42nd St., New York 18, has published these pamphlets for the benefit of industrial executives concerned with the particular problems discussed therein. The booklets are reprints of papers presented at several recent AMA conferences.

A Bedtime Story for Very Junior Chemists

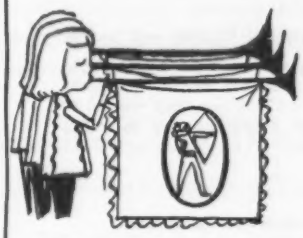
Once upon a time, there lived a sad little Sodium CarboxyMethylCellulose. He worked very hard extending Soaps and improving Synthetics. But all the Soaps called him a "war baby." And he wasn't allowed to associate with any but Low Grade Synthetic Detergents.

So he ran away. And arrived one day on the Doorstep of a Corporation in Wyandotte, Michigan. The Corporation picked him up and handed him over to the Research and Development Division. Well, you should see what they did for this little "war baby"!

They changed his length and Molecular Structure. They Manufactured him by a brand new Process. They let him associate with High Grade Synthetic Detergents. And then they gave him a name . . . "Carbose®." ®Reg. U. S. Pat. Off.

Carbose might have been very happy—but the Soaps still put on airs. "No matter how hard you and those Synthetics try," the Soaps told him, "nothing cleans as well as Soap."

But he worked hard just the same. He practiced Soil Removing and Whiteness Retaining and all the other things a detergency promoter should. And one great day, the Research and Development Division called the Soaps and Synthetics together and read a Proclamation:



"Synthetic Detergent products can be formulated with Carbose which will yield detergency equal to that of High Grade Soaps under conditions favorable to Soap, and far superior to High Grade Soaps under conditions unfavorable to Soap."

"Carbose!" Why, they were talking about him! Carbose was a hero! Yes, it was a great triumph for him . . . but Carbose went on . . . had a large family and did many more things . . . in textiles, paper, paints, ceramics, petroleum . . . and even in soap!

Soda Ash • Caustic Soda • Bicarbonate of Soda • Calcium Carbonate • Calcium Chloride • Chlorine • Hydrogen • Dry Ice Synthetic Detergents • Glycols • Carbose (Sodium CMC) • Ethylene Dichloride Propylene Dichloride • Aromatic Sulfonic Acid Derivatives • Other Organic and Inorganic Chemicals

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Wyandotte, Michigan Offices in Principal Cities

Wyandotte
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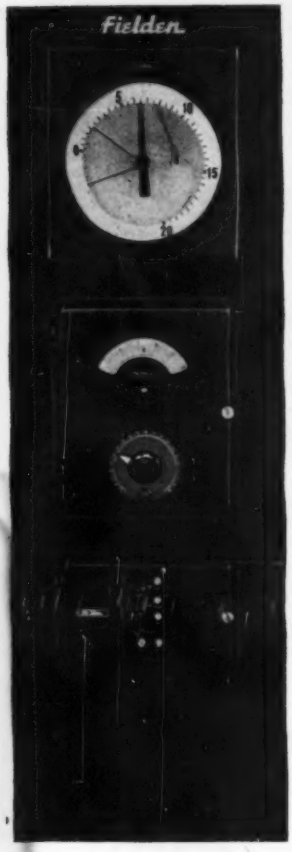
So if you are looking for a chemical with applications involving viscosity regulation, colloid stabilization, surface finishing, or detergency, why not write to us about Carbose?

For more information, write direct or use Reader Service post card.

Correct Moisture Content Assured



WITH

FIELDEN AUTOMATIC CONTROL

IN SLASHING
and
FABRIC DRYING

You can now have a continuous indication and record of moisture content in warp sizing and cloth drying—PLUS automatic moisture control.

The Fielden Drimeter and automatic control assures these results on any slasher or cloth dryer. It is simple to install and to operate.

The control ignores wet seams or wet patches. It gives close control of moisture content—usually within ±1¼%—on any weight of warp or fabric at any machine speed.

Many of America's leading mills are using this Fielden equipment because of its greater accuracy and effectiveness.

For the sake of better slashing and drying it will pay you to write today for details of this moisture control system.

NO OBLIGATION

Fielden **INSTRUMENT CORPORATION**

Canadian Agent: **ELECTRODESIGN**
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PHILADELPHIA 33, PA.

Mill Maintenance

Have You Considered Productive Maintenance?

"Productive" maintenance is routine preventive maintenance with an added punch. You not only try to keep machines operating at their usual efficiency; you try to increase efficiency with planned maintenance.

The productive-maintenance plan is being promoted by General Electric Co., Schenectady, N. Y., which has made up a file-size package of maintenance aids that are available to any maintenance department.

Here's how you can set up and use a productive-maintenance program:

1. Have an adequate staff of trained maintenance men.
2. Have the tools you need to do the job.
3. Make regular routine checks of operating equipment.
4. Plan outage of equipment at regular intervals.
5. Keep an adequate stock of mechanical and electrical spare parts.

You should keep a card-index system that includes biographies of every piece of equipment. The biographies should have information that will help you determine when to conduct periodic inspections, do routine cleaning, check bearings, give varnish treatments, lubricate, overhaul, etc.

You can get added efficiency—and consequently added production—if you can reduce breakdowns. You can reduce breakdowns if you plan major repairs and overhauls in advance for a time when the machines can be taken out of service for the shortest possible time. You will thus reduce their time out from schedule use.

Planned maintenance will also help you keep a good crew in your department. If your maintenance men have regular work, they will not be so inclined to change to a defense project as they often are if they work on an irregular schedule.

Round Table

(*Continued from page 190*)

specifications similar to ours as standard for outdoor American flags. More and more governmental departments—national, state, and local—are adopting the wool-nylon-blend flags because of their dura-

For more information, write direct or use Reader Service post card.

PRODUCTION PROBLEMS

got you up a tree?

The function of our Technical Service Department is to help solve various production problems in the field. These men are constantly working with new products and techniques—perhaps this experience would be helpful in smoothing out production sore spots in your operation.

Our basic, continuing research in starch chemistry is unsurpassed . . . under the direction of the foremost research men in this field.

Make the most of these facilities . . . no obligation, of course.

For uniform quality products . . . for a reliable source of supply . . . depend on Corn Products Refining Company.

Globe and Eagle are registered trade-marks of Corn Products Refining Company, New York, N. Y.

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HOW TO GIVE YOUR FLOORS A FUTURE

(Above) Dark oil-soaked floor maintained by scrubbing. (Right) Similar area, same dirt conditions, but TENNANT dry-cleaned.

An example of results you can get with the

TENNANT

***System* OF FLOOR MAINTENANCE**

To be SURE of bright, easy-to-clean floors in your mill—both now and for *years* to come—no other maintenance method is more effective than the TENNANT SYSTEM.

It not only reconditions dark, spongy, water-softened floors . . . it restores original brilliance . . . hardens, seals and *protects* against dirt and traffic . . . cuts cleaning costs.

KEEPS FLOORS BRIGHT by fast mechanized dry cleaning. Eliminates scrubbing.

MAKES FLOORS EASY TO CLEAN. Dirt cannot readily adhere to smooth-sealed floors. Wipes off easily.

CUTS MAINTENANCE COSTS by saving manhours. Floors clean up like magic and stay clean much longer than when scrubbed. Floors stay dry, hard, lustrous; reduces slip hazards.

G. H. TENNANT CO.
2586 North Second Street
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Write today!
Get typical case histories, photos, and NEW bulletin "How to Get Better Results in Textile Floor Maintenance."

TENNANT FLOOR MAINTENANCE System

Established 1870

OFFICES IN PRINCIPAL CITIES

bility, which makes their cost low and their beauty enduring.

"Right now we have another problem relative to the possibility of Alaska and Hawaii becoming states. We have submitted our design with 50 stars to the Heraldry Bureau in Washington. It is awaiting approval for when Alaska and Hawaii are admitted to the Union.

"The new flag design has been carefully worked out geometrically, to incorporate the 50 stars in the field in what is known as a staggered design—as opposed to the present 48-star design, which has stars in even rows, and one above the other. Oddly enough, we worked out a similar staggered design in 1912, the last time the star field was changed. A number of them were made and are treasured by their owners as a collector's item, even though the design never became an official one.

"Should our design for the 50-star field be adopted, we will not seek any material gain or benefit. Our efforts would be generously repaid in the knowledge that we had contributed to the majesty and beauty of that greatest of all flags—Old Glory."

DIGBY CHANDLER
Annin & Co.
New York

REDUCING JOBLESS TAX RATE

Dear Editor:

Here are ten "tips" to New York employers for reducing labor turnover and lowering their unemployment insurance tax rate under the amended New York State law. Perhaps employers from other states will be interested in how to keep their labor turnover down too.

1. Hire neither over- nor under-qualified workers; both are bad risks.
2. Set up requirements in line with job duties.
3. Tell workers their duties and working conditions before hiring them.
4. Make known welfare plans, bonuses, and other benefits of the job.
5. Provide adequate on-the-job training for all employees.
6. Provide in-plant transfer and upgrading whenever possible.
7. Don't lay off workers in one department that you can use in another.
8. Make sure your supervisors know how to supervise.
9. Find out through exit interviews why workers leave jobs.
10. When you have found out why, take corrective action where needed and possible.

MILTON O. LOYSEN
New York

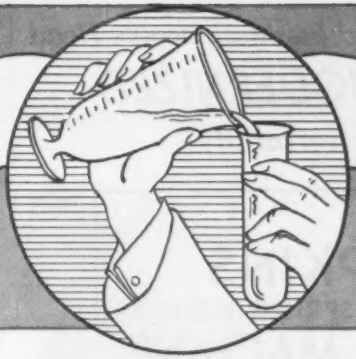
TECHNICAL LECTURES

Dear Editor:

We should like to call your readers' attention to our new lecture series on the chemistry and technology of textiles being held every Tuesday evening at our Summit, N. J., laboratories through November 13.

S. B. MCFARLANE
Celanese Corp. of America
Summit, N. J.

Tested!



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BRYTEX LIQUISIZE

Do you homogenize your starch size? If so, here is your perfect softener and plasticizer. Liquid, concentrated, cold-water-emulsifiable Liquisize imparts optimum lubrication and pliability—is removed easily after finishing.

BRYTEX FIRMEL

A resin finish that imparts firmness and a crisp hand. May be used with U F resins, starches, gums and softeners for a great variety of finishing requirements. Firmel, on drying, possesses a high degree of permanency, without the use of catalysts or curing.

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the world renowned "Old Faithful" Double Head

NOW FULLY MODERNIZED

for greater versatility!

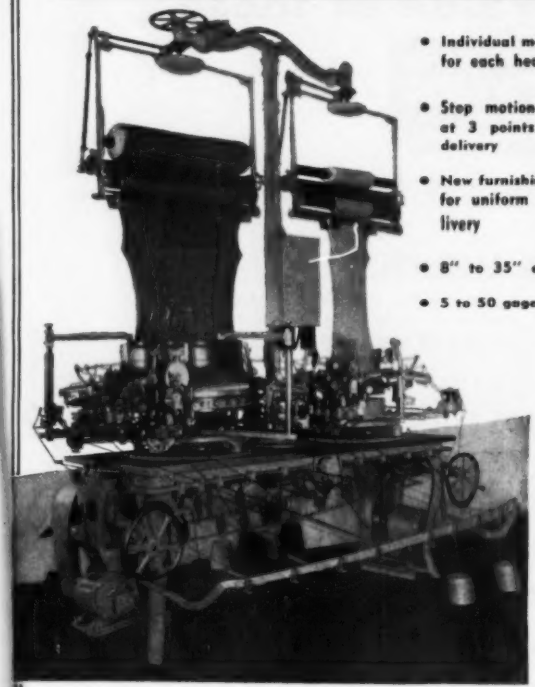
IT'S THE

NEW

TOMPKINS

DOUBLE HEAD SPRING NEEDLE

KNITTING MACHINE



- Individual motor drive for each head
- Stop motion controls at 3 points of yarn delivery
- New furnishing wheels for uniform yarn delivery
- 8" to 35" cylinders
- 5 to 50 gages

WRITE FOR COMPLETE DATA AND CLOTH SAMPLES

THE NEW TOMPKINS Double Head Spring Needle Knitting Machine will give you a much welcomed improvement in fabric at a lower cost in manufacture with a saving on labor, waste and needles! You get new speed and new economy plus the versatility of fabrics (fine silk underwear to heavy overcoating) for which Tompkins machines have been world renowned since 1846! Three-color striper and a fool proof pattern attachment available on this machine.

TOMPKINS BROS. CO.

623 ONEIDA ST. SYRACUSE 4, N. Y., U. S. A.

over a century of continuous service to the knitting industry throughout the world

Pacific Evenness Tester

(*Continued from* page 143)

and evenness for every operation from carding through spinning. We check the work from each machine every day. The section hand is notified if any of his work is not up to standard. If the reason is apparent from analysis of the graph, he's told that too. One hour later another sample is taken from the same machine. If the work is still bad, the machine is stopped until the trouble is remedied. Production that was substandard is reprocessed if necessary."

Mill Case No. 5—Quality Control.

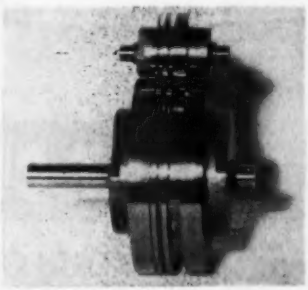
"In our work with the Pacific tester, we've reduced the average unevenness of our top from 27% to 12%. This was accomplished by scientific use of the tester in a quality-control program. On worsted top, any unevenness over 18% has a definite bearing on the final yarn—regardless of the number of doublings or processes that follow.

"Sliver in any process from top to roving should have unevenness of 15%. Any less unevenness cannot be justified. We got it down to 12% but the added effort from 15% down to 12% is not worthwhile. Even a sliver with only 8% unevenness will be no better than one with 15% unevenness because they'll both look alike after spinning."

Some actual standards

Again we must emphasize the fact that each mill has to set up its own standards to get full results from the tester. The examples given here are just to give you a rough idea of how some other mills have used the new tester.

3-OZ. TOP or 115-GR., 1-OPERATION, PIN-DRAFTER STOCK. Absolute variation should be no more than 10% over the average,



THESE MATED ROLLS are the heart of the Pacific tester. The line nip formed by the tongue-and-groove rolls measures variation in the cross-sectional area of the material being tested.

YOU CAN TEACH AN OLD TEXTILE NEW TRICKS!

Old or new, textiles can be made to perform better, serve longer, with the help of Stein Hall products. Our laboratory technicians continually scrutinize the textile industry, searching for new ways to improve our products for warp sizing, printing, and finishing fabrics.

Stein Hall has been working with textiles for many years, endlessly testing under expert supervision in controlled laboratories. Our success is measured by the efficiency of the operation in *your* plant. The benefits of our 85 years of experience are yours for the asking. For any textile problem, call for one of Stein Hall's trained salesmen.

Write for Quotations, Free Samples and Consultation.

HALLMARK ® QUALITY PRODUCTS

STEIN SH HALL

285 MADISON AVENUE NEW YORK 17, N. Y.

ESTABLISHED 1866

Textile Laboratories in Providence, New York, and Charlotte. Branch offices in 16 cities in the U. S. and Canada.

based on a 10-yd. length. Sometimes this mill runs 20 yd. for a look at the graph, then calculates for only 10 yd. to get results more quickly.

1/24s WORSTED YARN

Variation is around 65% in one mill. If 65% is the critical point, the difference between 65% and 60% may not be noticeable. But going from 65% to 70% will be definitely visible on the chart. This critical area should be known in all applications to interpret results properly.

1/36s WORSTED YARN

This mill uses 62-64s quality wool. This quality gives 37 to 40 fibers per cross-section. So the minimum variations or unevenness, based on fiber diameter and the number of fibers, is 4%. Anything more is due to processing.

Millmen's answers to your questions

1. *Which chart speed should we use?*
   Use the slow speed only if you're looking for long-range variations or trends, for instance from one end of a bobbin to the other.
2. *Should we check variation from yard to yard or from inch to inch?*
   It is easier to pick up yard-to-yard variations. Maximum variation from inch to inch is 50 to 60%. But yard-to-yard variation can be over 100%. Therefore the differ-

Here's How the Tester Can Settle Your Arguments

Was it poor roving, top, or spinning? With the evenness recorded on a graph, arguments are eliminated and the bad work is stopped before much of it is processed. In the standard system of Bradford manufacture, where the doublings range over 50,000, defects created in the early processes stand some chance of being covered up. But in the modern systems, with doubling cut to a minimum, it is difficult to bury defects once they are made. The defect may be spread over a longer range, but it will still show up. In view of this, a good quality-control system that tests the product of each machine as often as your volume calls for and stops defective processing before much of it is made seems to be a logical solution. The Pacific tester and the graph it produces can help you to do this.

Just how good CAN you get?

It takes a whale of a golfer to shoot par for the course . . . but tournament *champions* shoot even *better* than par, by a few strokes. That "few strokes" improvement results from special attention to the fine points of the game.

In textile production, too, even *good* efficiency can be improved. For instance, it's entirely possible that a certain starch . . . perhaps even tailor-made to your own specifications . . . could contribute to an efficiency gain.

Why not call your Anheuser-Busch representative? He'll be glad to come and talk it over.

CORN STARCHES
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NEW YORK, N. Y. 33rd & 12th AVE.

An audience of 14,000 is expected at the mammoth Fashion Panorama of New York's entire fashion industry at Madison Square Garden, Nov. 8.

--Men's Wear magazine

With production doubled, with power, soap, water and steam consumption reduced, and an over-all saving of two men, the Hunter Flex Reel washer installed at Arnold Print Works, No. Adams, Mass., has more than proved to be a profitable investment, according to Joseph Merlini, in charge of finishing at the plant.

--American Wool and Cotton Reporter

Allotments of controlled materials for textile machinery for the fourth quarter are roughly about 30 per cent under those of the third quarter of this year.

--Daily News Record

George Sanders, moving-picture actor whose hobby is inventing, is perfecting a plastic all-purpose suit for men "that can be taken off at night, hung in the shower, sprayed, and in a twinkling be clean and dry...It will lend itself to mass production."

--Saturday Evening Post

I hope George burns the blueprints once he gets this perfected. There are plenty of mild lunatics around who might go for that sort of thing.

--E.M.Ruttenber, in Daily News Record

A series of broadcasts on recent textile research starts this month, running for 26 weeks, over a network of Southern and New England stations.

--J.W.Valentine Co., sponsors

A trimming machine that cuts filling threads from the selvage of cloth being unrolled has been developed by Muschamp Taylor, Ltd., Manchester, Eng.

--Textile Industries

A motion picture produced to combat industrial accidents in textile mills is now ready, after two years of planning and filming.

--No. Carolina Industrial Commission

New England Textile Foundation has awarded 41 scholarships for the 1951-52 scholastic year.

--Textile World

The increased use of vending machines for in-plant feeding of employees is foreseen by many mills, especially smaller plants.

--Textile World

The productivity (output per man hour) of American industry is not increasing as it should, according to a survey showing only 38% of firms claiming their productivity ahead of last year.

--Mill & Factory

The textile industry now consumes about a quarter of all industrial chemicals sold.

--Chemical Engineering

Production of a new acrylic fiber temporarily called X-51, has been started in small amounts by American Cyanamid Co. at a pilot plant.

--Textile World

At least 50% of the employees have a difficult time reading and understanding management messages according to a study of 50 industrial house organs.

--Personnel Journal

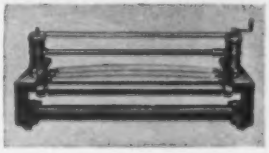
A T-shaped sprinkler head is designed to break up water into a fine enough pattern to fill the area from ceiling to floor.

--Modern Industry

The influence of Persian designs and the primitive influence are increasing in prints for sport shirts.

--Daily News Record

PREPARATION AND WET FINISHING EQUIPMENT
FOR WOOL, WORSTED & SYNTHETICS



News from the field

Hunter has real progress to report for its first year as owner of Thomas Leyland Machinery Co. Leyland-Mycock rubber, neoprene or metal clutch Expanders for cotton, wool and synthetic mills have been improved both from a manufacturing and engineering point of view for better results and less maintenance. A new Hunter plant at Greenville, S. C., has just been opened to give full engineering and service help in the Southern territory.

JAMES HUNTER MACHINE CO.
FOUNDED 1847 North Adams, Mass.

British craftsmanship at its finest

Mellor—MB—Bromley

INTERLOCK

KNITTING MACHINES

4RL SERIES INTERLOCK MACHINES
BUILT WITH MULTIFEEDERS FOR CONTINUOUS INTERLOCK OR WITH AUTO-CHANGE FOR FANCY PATTERNED FABRICS.

The Mellor Bromley range of top-line machines covers most classes of underwear and outerwear fabrics and garments. Send for illustrated leaflets of the types in which you are interested.

Here are five of the principal plants of the Mellor Bromley group in England, employing some 3,000 workpeople—many with 25, 40 and 50 years service.

MELLOR BROMLEY & CO. LTD
LEICESTER · ENGLAND

ences show up better in yard-to-yard calculations.
Example:

	Percent Variation	
	Yd. to yd.	In. to in.
Good	18	6
Bad	25	8

This is the same yarn. It is obviously easier to recognize the change from 18 to 25 than that from 6 to 8.

3. *How many yards should we test?*
For 3-oz. top or its equivalent, mills usually test 10 yd. A course roving requires 20 to 25 yd. About 20 to 25 yd. is the amount of yarn to test. But you've got to determine your own standards to get best results.

4. *How long will it take to get the tester into useful operation?*
It takes one man from two weeks to a month to become thoroughly familiar with the tester, accumulate enough data, and set the standards.

5. *How much time does each test take?*
At one mill it takes only 7 min. to complete a test. That's because they have one girl to run the tests and two girls to make the calculations.
An average time, however, is 15 to 20 min. per test for an experienced operator.

6. *Does the tester work for dyed stock?*
Yes. Because this unit measures bulk only, it works for dyed stock as well as undyed stock.

7. *Are results affected by twist?*
No, twist has no bearing on the machine's ability to pick up unevenness. Twist affects results only by the contraction that causes a change in the yarn number. The tester measures the true thickness, not bulk or loftiness.

8. *How do we handle the data to get yarn number from thickness measurements?*
A plot of known weight vs. thickness on graph paper will give you a straight line over the range of a single groove. A plot of count vs. thickness will give you a usable curve on graph paper over the range of a single groove. If these graphs are hung on the wall beside the tester, the operator can at a glance tell the weight, or count, of any material being tested by

For more information, write direct or use Reader Service post card.

It's

DU PONT CONTINUOUS PEROXIDE BLEACHING SYSTEMS

for efficient, economical

KNIT GOODS BLEACHING

These installations now producing over 60,000 pounds per day!

POTTSVILLE
Bleaching and Dyeing Co.
Port Carbon, Pa.

Installed.....July, 1948
Capacity.....3,000 lbs. hr.
Goods Processed.....Cotton ribbed knit material and flat knit of all sizes and weights

Processing time cut to less than 2 hours . . . Substantial savings in steam, water, and chemicals.

SPRING CITY
Bleach and Dye Works
Spring City, Pa.

Installed.....July, 1947
Capacity.....3,000 lbs./per hr.
Goods Processed.....Cotton knit

Bleaching time reduced 90% on light- and medium-weight fabrics . . . All operations easily handled by two men.

LUMBERTON
Bleach and Dye Works
Lumberton, N. C.

Installed.....March, 1948
Capacity.....2,500 lbs./per hr.
Goods Processed.....Cotton knit underwear fabrics

Results satisfactory in every respect . . . Millions of yards processed speedily and economically since installation.

OUTSTANDING RESULTS LIKE THESE are being duplicated everywhere the Du Pont Continuous Peroxide Bleaching System is used. Why not check its excellent possibilities for your plant right now?

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on Du Pont Continuous Peroxide Bleaching Systems, just write: E. I. du Pont de Nemours & Co. (Inc.), Electrochemicals Dept., Wilmington, Del.

E. I. du Pont de Nemours & Co. (Inc.)
Electrochemicals Department, Wilmington 98, Del.
Please send me your Bulletin—P 35-1148—"Bleaching Cotton Knit Goods in the Du Pont Continuous Bleaching Range".

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BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY

finding the average thickness on the graph paper.

9. *How many tests are necessary to set up the standards?*
This will depend on the mill and its work. If your mill runs only one style you might accomplish in a month what another mill would take much longer to do. It is better to be on the safe side in this respect and take more tests and time, rather than less.

10. *When is the jog switch used?*
It is used when threading up the measuring head.

11. *What types of fibers may be tested?*
All natural and man-made fibers may be tested.

12. *What is the purpose of the zero adjustment?*
With the gage and thickness micrometers set at zero, you can balance the circuit with this adjustment so the pen will center on the base or zero line.

13. *In analyzing by the sight method, do you reject all material that goes outside the limits you set up?*
No, an occasional freak "pip" that travels beyond the limits may be permitted. It should be investigated, and the cause, if apparent, noted. It could be a piece of vegetable matter in the yarn, etc.

14. *Why do you test at 12 yd. per min?*
Because that is the maximum running speed consistent with accuracy in maintaining compression on the material being tested.

15. *Why is the base line necessary?*
So you can compare results obtained from any one of several testers you may have in your mill, or group of mills. Obviously, if you have no common ground (known base line), then you can't make comparisons. It is also used in obtaining the count.

16. *Are variations in sliver carried through to finished yarn in the same magnitude?*
How much the initial defect is reflected in the finished yarn depends upon the stage at which it was first caused and the type of defect. A rhythmic variation, such as caused by a poor apron, will contain the waves of irregularity through to the finished yarn. But the crests will be spread out further with each drafting, equal to the

Whatever your wet-processing need—
DYE—BLEACH—
FINISH—
NATURAL or
SYNTHETIC
FIBERS—FABRICS—
you'll meet it
more efficiently with
Laurel
textile specialties
. . more economically and more profitably, too. Since 1909, market-wise textile mills have found Laurel laboratory- and mill-tested processing specialties give speedier production, better finish — more salable fabrics. We invite you to see for yourself how these dependable Laurel products make your processing dollars go farther. Let us arrange a practical demonstration in your plant. Write or call us today.
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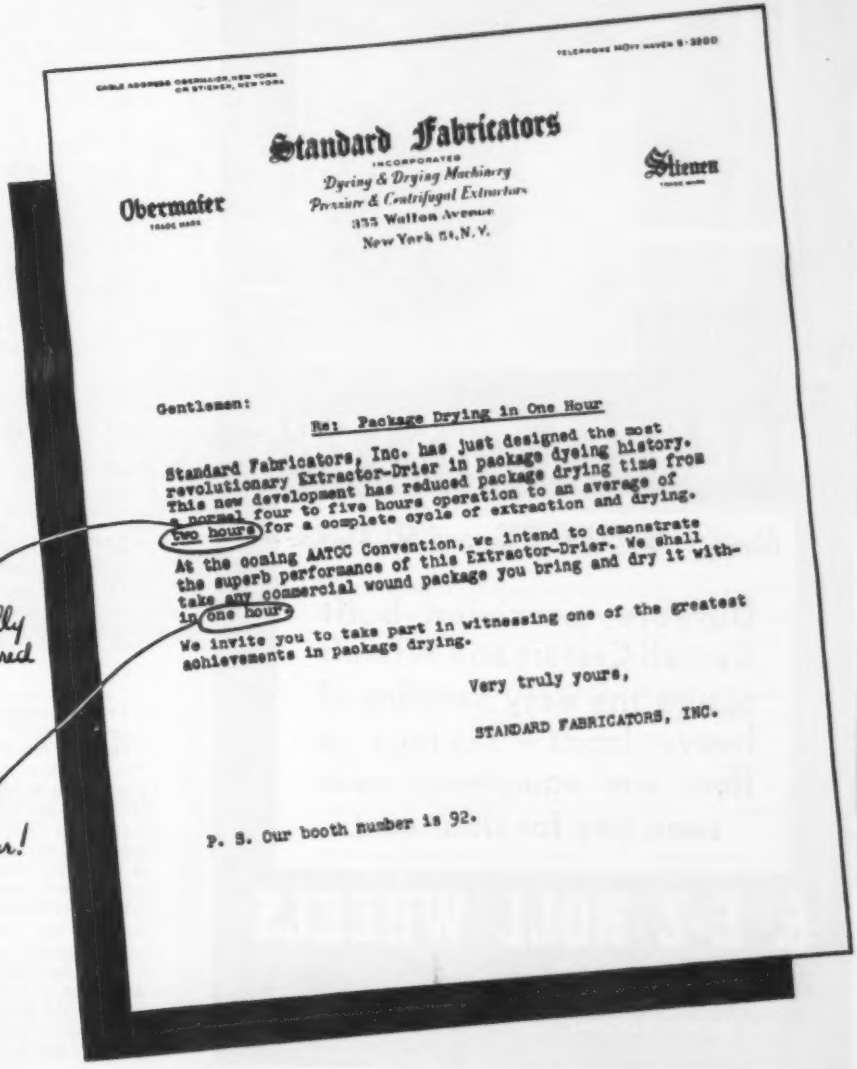
An open letter to package dyers



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Pressure & Centrifugal Extractors
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Gentlemen:

Re: Package Drying in One Hour

Standard Fabricators, Inc. has just designed the most revolutionary Extractor-Drier in package dyeing history. This new development has reduced package drying time from a normal four to five hours operation to an average of two hours for a complete cycle of extraction and drying.

At the coming AATCC Convention, we intend to demonstrate the superb performance of this Extractor-Drier. We shall take any commercial wound package you bring and dry it within one hour.

We invite you to take part in witnessing one of the greatest achievements in package drying.

Very truly yours,

STANDARD FABRICATORS, INC.

P. S. Our booth number is 92.

or practically in any desired time

Yes, 1 hour!

amount of draft given. A slub, however, will merely become elongated with further processing.

17. *Does the unevenness increase percentagewise for the same defect from sliver to yarn?*
For some types of defects it does. A slub in a drawing process would not be such a big variation with respect to total bulk as the same slub might be by the time it reaches yarn stage.

18. *On what basis was the weight assigned to the various grooves?*
The maximum amount of weight possible without masticating the fiber is used. Since fibers vary in their ability to withstand pressure, the weakest was used as a basis so all fibers could be tested on this unit.

19. *What method is used in obtaining variations in count?*
Use the slow chart speed. One inch of the chart will represent 20 yd. of material tested, so the resultant chart will be compact enough to give an over-all picture of count variation throughout the bobbin.

20. *What is the actual measuring point?*
The line nip through which the material being tested passes is the actual measuring point.

21. *Why are there seven stages of magnification?*
So you can "blow up" the variations to a size that will still keep them on the chart but make for most accurate readability. For example, a fine yarn would record practically a straight line if run through at the lower stage of magnification that must be used for top.

22. *Why is it necessary to have average unevenness, maximum unevenness, and thickness?*
You must have a thickness figure upon which to base your unevenness so it can be expressed percentagewise. This figure also tells you the actual count and weight of the stock. From this base you can measure how much thicker and thinner the material runs. To see how your material averages, you express the average deviation from the base and get the average percentage of unevenness. To see how bad the bad spots really are, you measure from the thinnest point to the thickest point; and

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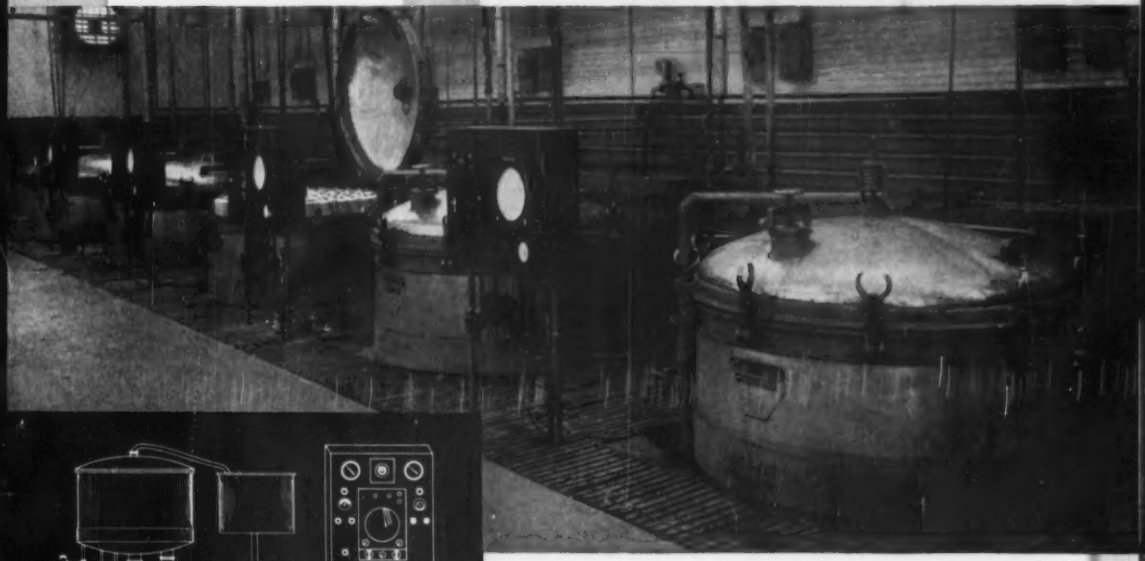
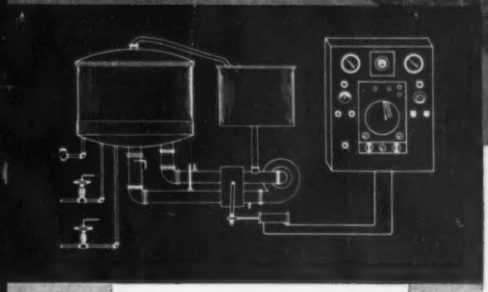
IS KEYED TO THE NEED OF
EVERY TEXTILE PROCESS

Maximum brilliance, levelness, penetration . . . *in package* (and beam) *dyeing*





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- *Maintenance of optimum temperature.*
- *Close control of dye exhaustion.*
- *Assured levelness and penetration.*
- *Certainty of maximum exhaustion.*

Write for Data Sheet No. 8.1-12

Those three, important production qualities can be more easily and effectively maintained by your Kettle operator . . . when the process is guided by a Brown Package Dyeing Control System.

Proved for long and satisfactory service, in installations such as the one pictured . . . it provides precise and accurate control, controlled rate of rise, automatically timed reversals and total process cycle, and easy shifting between manual and automatic operation. This system is another example of how Brown Instrumentation is keyed to the need of specific Textile Industry processes . . . stemming from application experience and engineering know-how, and backed by the nation-wide network of Honeywell branch offices and service centers. Call our local representative today . . . for help with your control problems.

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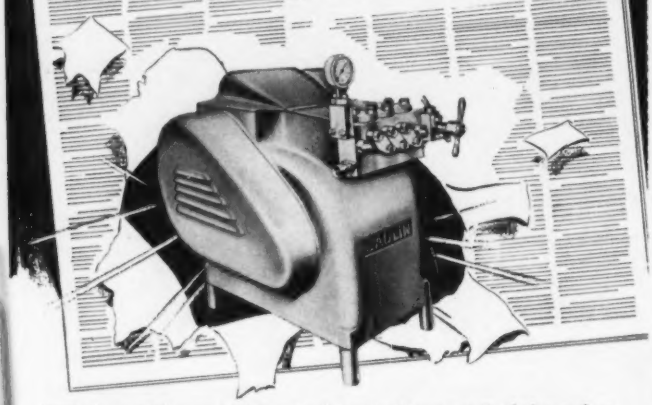
DAILY NEWS

1 BILLION POUNDS OF SIZE HOMOGENIZED BY GAULIN HOMOGENIZERS



Mills from Maine to Alabama find Gaulin-Homogenized size makes a stronger yarn that sheds less at the loom, and at the slasher. That's one reason why, in the last 12 months, textile mills have homogenized more than a billion pounds of size with Gaulin Homogenizers.

Strength and elasticity lost in boiling or enzymatic conversions are not affected by Gaulin-Homogenizers. Uniform, stable homogenized slashing solutions spread more evenly on the yarn, penetrate better, result in higher weaving efficiencies.

Savings in starch, steam consumption and cycle time alone, pay for installation costs.

Get the full facts — simply write for Bulletin XXX — and consultation without obligation.

HOMOGENIZED SIZE

Has a Stable Viscosity • Penetrates Yarn Better • Sheds Less at the Loom and Slasher • Increases Loom Efficiency Makes Stronger Yarn • Uses Less Starch Per Batch • Lowers Cooking Temperatures • Eliminates Boiling Time • Lowers Steam Consumption • Keeps Longer

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MANUFACTURING COMPANY, INC.
52 GARDEN STREET, EVERETT 49, MASS.
Southern Representative: W. A. Hewitt — P. O. Box 961, Greenville, South Carolina

World's Largest Manufacturer of Homogenizers, Triplex Stainless Steel High Pressure Pumps, and Colloid Mills

expressing this in terms of the average thickness, you get the maximum unevenness.

It is the combination of the two that tells you the story. Obviously, you would rather have a slightly higher average percentage with a lower maximum than a slightly lower average with a much higher maximum.

23. *What is the purpose of the micrometers on the recorder?*

With a 3-oz. worsted top we might set the micrometer on the measuring head at 0.095 in. At stage "B" magnification we might wish to control our percentage of variation to a degree that would be attained if our recording pen arm didn't travel more than 2.25 in., or 1.125 in. on either side of the base line. We would set our limit micrometer so it would read 1.125 in. This would cause our limit pens to draw a line at this point on either side of the red line. As long as our chart stayed within these limit lines we would be achieving our desired percentage of unevenness or better. If our top was 3-oz., the normal position of the pen would be at the center line. However, if the sample we were testing ran over to one side of the graph, then we would turn our thickness micrometer until the curve was fairly well centered on the mean line. If the resultant graph stayed within the limit lines, we would know that we were all right as far as unevenness was concerned. But we were on the light or heavy side. By adding or subtracting the true reading of the thickness micrometer from the reading of the gauge-head micrometer we would come up with the true thickness. This figure would tell us our supposedly 3-oz. top was 2.9 oz. or 3.1 oz., as the case might be.

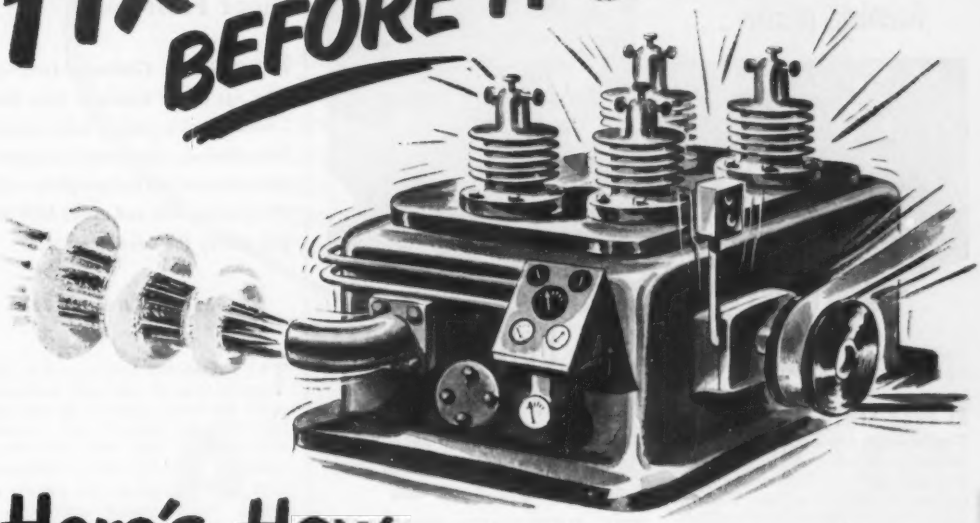
24. *How does the stock pass through the measuring areas?*

The bottom roll is driven by a ½-hp. motor; the top roll's tongue is frictionally driven by the stock. The material is compressed into a rectangle with unevenness rising to the top and causing a vertical movement in the top roll. This movement is transmitted through the micrometer to the measuring gauge.

25. *Which tension device should be used?*

The Kidde tension device is used for testing yarn and the ladder device for testing slivers. The trumpets attached to the sliver head form the sliver into a proper cross section for the grooved rolls.

FIX IT... BEFORE IT BREAKS!



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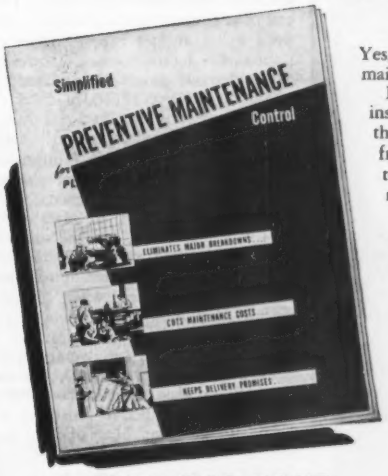
Scheduled Preventive Maintenance Controlled by KARDEX VISIBLE RECORDS!



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Yes, with a Kardex Visible system, you review and *control* your preventive maintenance schedules... *at a glance!* Here's how the system works—

Experience and performance are combined to set up a pre-arranged, tested, inspection schedule. Kardex colored signals indicate . . . *automatically* . . . those items due for inspection. A "Floating Inspector's" record is withdrawn from the Kardex pocket, filled out with instructions specific to the checkup to be performed, and routed to your maintenance men as a work order and report sheet.

When the maintenance job is complete, the maintenance man checks off what he did and the card is returned to its place, *automatically* signaling job completion. Then, the Kardex signals are advanced to the next date specified. Details are posted on the maintenance card from the job card, providing a continuing, *permanent* record of maintenance activity.

The quick result: needless, costly "down-time" is eliminated; operating efficiency goes up; manufacturing costs go down – all accomplished with *less* clerical help and a minimum of time-wasting paper work, thanks to the "floating" maintenance order!

You'll find valuable information in *SIMPLIFIED PREVENTIVE MAINTENANCE CONTROL*, just published by Remington Rand to help you. Too, you'll learn of the profit-building advantages in controlling plant inventories with Kardex *simplified* property records.

To establish, once and for all, complete control over your maintenance activity and to hold inventories at a healthy, low level, write for your copy *today!* Ask for KD-449, *SIMPLIFIED PREVENTIVE MAINTENANCE CONTROL*. Address: *Management Controls Reference Library*, Room 1406, 315 Fourth Avenue, New York 10.

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THIN BOILING AND TEXTILE STARCHES

Absolutely uniform and dependable. Careful quality control assures maximum performance in your mill.

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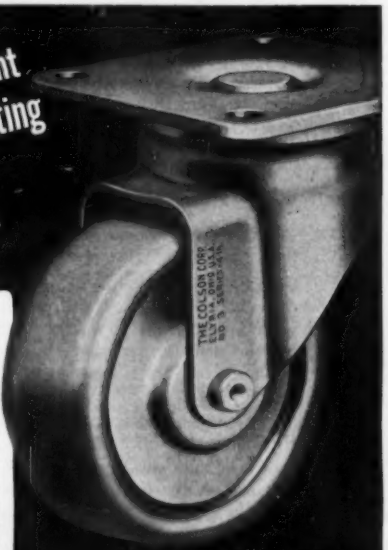
AT YOUR SERVICE

The Hubinger technical staff and laboratories are widely recognized for their thorough and practical knowledge of the use of starch for textiles. Their experience assures you of the *best* product, *tailor-made* to fit *your specific needs*. Consult us on any production problem—at no obligation, of course.

Speed Up Your Old Equipment with New Load-Floating Colson Casters



Rolling equipment that doesn't roll easily reduces efficiency and profits in your mill. There are 1458 standard Colson casters—many designed especially for Textile mills. They roll easily over all floors, swivel freely, are rust-resistant. Many models have thread guards. Colson also manufactures a wide range of trucks for the Textile Industry—hand trucks, platform trucks, box trucks, drum and barrel trucks and special devices. Write us or consult your phone book for the local Colson office.

Model 3-427-16 with thread guards, designed especially for the Textile Industry.

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Enclosed-Jig NYLON DYEING Offers Improved Light Fastness

HIGHLIGHTS: Controlled-temperature jigs afford continual even heat — More stable sodium sulphoxalate formaldehyde substituted for the conventional sodium hydrosulphite—Anthraquinone vats and azoics both applicable by the newer method.

By **FREDERICK A. ALTER**

THE EQUIPMENT BEST SUITED to the application of vats and azoics on nylon flat fabrics today is an enclosed automatic jig equipped with a closed steam-heating unit and instrument controls. This jig affords continual, even heat throughout the process of dyeing. Since manual supervision is almost eliminated or is greatly reduced, improved-quality production is assured in processing nylon fabrics in practically all types of weaves. The brightness and tinctorial strength of azoic dyeings are very markedly enhanced by this efficient dyeing unit.

LIGHTFASTNESS SOUGHT. The use of a steamer unit in treating vat-dyed nylon at first gave evidence of improved lightfastness. However, this treatment proved detrimental by producing adverse effects in crocking and rubbing resistance, and also dulled the shades considerably. Although vat dyes on nylon exhibit improved fastness in a good range of shades, careful selection must be exercised in their use. Not all these dyes work well in combination, and the number of vats with improved fastness to light is limited. This consideration is one of the first to be given when contemplating their application to woven nylon textiles of the finer grades.

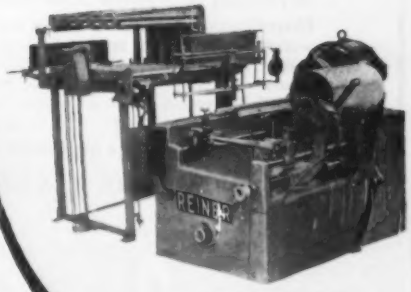
In selecting vats for dyeing under today's market requirements, the anthraquinone class must be considered because of its superior resistance to light fading. Several blues of this type, such as the vat blues R, 3G, GD, and RS, are advisable. Vat jade green and vat jade green spura give excellent results; while in the vat oranges, YL, RRT, and G have good fastness-qualities.

In the vat violets, 4RN and RRD are advisable for use; while in the vat browns, AR and AG can be recom-

MAGAZINE CREEL

A PERFECT TEAM

—designed to meet the need for speed, quality and economy—the very essentials for perfect production.



SECTIONAL WARPER
Model SW-24 with Yarn Storage Device

REINER CREELS—Magazine, Single Type, Truck or Special Duty—are of the most modern construction, meeting all requirements, suitable for all yarn packages including nylon pirns. Available with mercury contact, electrical drop lever and loom type (drop heddle) stop motions, balloon control, variable pin disc tensions to serve all possible mill needs, from the finest to the coarsest yarns. Many other features are described in our creel catalog—yours for the asking.

REINER WARPERS—Sectional and full width—are of rugged construction—able to withstand the highest speeds and heaviest use. The Reiner automatic yarn storage device is designed to take off yarn from the spool to facilitate repairing of broken yarn ends without disturbing the yarn tension. Sectional warpers available up to 84" in length, with flange diameter up to 30". Shorter models adaptable to multiple spools for the milanese and narrow fabrics trades. Many patented features insure ease of handling, safety and above all—quality warps. For further details ask for our Warper catalog.

To Buy Reiner means to have a fully interrelated line of equipment from cone to fabric. It means ready advice and spare part service—in short, the best assurance of profitable and reliable production.

THE REINER LINE INCLUDES:

Tricot Machines (2- and 3-bar, 84" and 168")—Simplex (Double Knit) Machines—Raschel Machines—Kayloom Machines—Full Width and Sectional Warpers—All type of Creels—Four Section Full-Fashioned Hosiery Machines (up to 66 gg.)—Automatic Schiffli Embroidery Machines (10 and 15 yards)—Bobbin Winding Machines (for Stitching and Quilting)—Ready Spare Part Service for all Reiner Machines.

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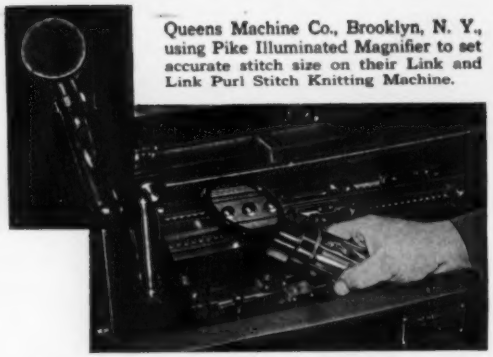

Queens Machine Co., Brooklyn, N. Y., using Pike Illuminated Magnifier to set accurate stitch size on their Link and Link Purl Stitch Knitting Machine.

ELIMINATE "GUESS WORK"!

USE THE PIKE ILLUMINATED MAGNIFIER TO SET ACCURATE STITCH SIZE

Advantages to Machine Manufacturers and Users!

Magnification provides 3 times normal size view of work • Built-in light brightly defines part being examined • Full 3½" lens gives wide field of vision • Easy to use—it's portable—batteries in handle • Valuable for all inspection work on textile machines

Battery Model—$7.50 Immediate Delivery

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Sterling quality is widely recognized by Spinners and Twisters.

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STERLING RING TRAVELER CO.

FALL RIVER, MASS.

mended; and vat olive R and G along with vat black G can also be used with very satisfactory results. This grouping makes it possible for the dyer to make a good selection of vat dyes that will work well in combination and produce the faster results he wishes to achieve.

AZOICS. When the problem of bright reds, scarlets, and deeper pinks came up for consideration because of their absence in the vat line, the azoics were given consideration for equal fastness to vats. When the azoics were first experimented with, the results were rather dull; and the general fastness proved most unsatisfactory since the dye crocked and rubbed off badly and because its resistance to washing and wet processing was poor when applied by the usual cotton- and rayon-dyeing methods. However, after considerable research and trials, a three-process method was worked out.

1. The nylon fabric was naphtholated in the enclosed jig at 150° F. for better penetration of the fiber and for

More Stable Vat-Dye Reducing Agent Improves All-Around Nylon Fastness

With the advent of woven nylon fabrics, the generally accepted method of dyeing synthetic fabrics in enclosed tensionless jigs, with the dispersed acetate colors was regarded as giving sufficient all-round fastness and brightness to enhance the marketability of the nylon end products also. But with new improvements in the applying of the acetate dyes on nylon, vat colors loomed as an even better long-term possibility for increased fastness in a good color range.

However, vat dyestuffs, applied in their usual manner as in cotton and rayon dyeing, were productive of only fair light and medium shades when used in ordinary hydrosulphite and caustic-soda vat dyeing. Shades produced were dull, and their fastness evidenced none of the usual excellent characteristics found in other dyeings on cotton and rayon. Since vats showed possibilities of increased importance among the newer synthetic fibers, like nylon, continued research efforts improved results a lot through a formula change.

In this formula change, sodium hydrosulphite as a reducing medium in the vat bath was replaced by a more stable reducing agent, sodium sulphoxalate formaldehyde. With a change in temperature, starting at 170° F. and raising to the boil, an increased affinity of nylon for the vat color was discerned. Darker shades of far superior fastness qualities were obtained. This change from the unstable hydrosulphite, which volitalized off readily at higher temperatures, to the very stable sodium sulphoxalate formaldehyde allowed excellent reduction at increased heats in the dyeing operations. The results were much better fastness to crocking, rubbing, washing, and wet processing. While resultant lightfastness cannot quite measure up to that of ordinary vat-dyeing of rayon and cotton, this newer method has made a decided improvement in nylon dyed with vats.

Where quality

is the

first consideration

in a fabric

there is

no substitute for

A C E T A T E

the beauty fiber

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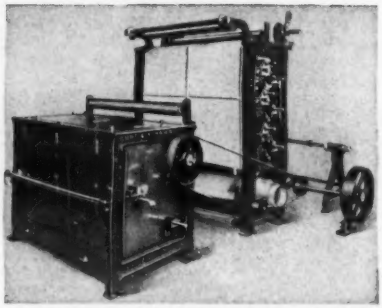
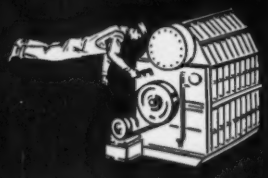


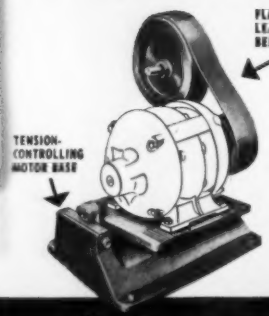
STARCHING OR DUSTING MACHINE
WITH VERTICAL BRUSHER AND TYPE SF WINDING HEAD

This outfit is used for applying starch to rubberized or other coated fabrics. The starch, powder, talc or other material is first applied to the goods and then the surplus is roughly removed; the brushes of the Vertical Brushing Machine will remove the remaining starch and leave a smooth uniform finish. The goods are rolled up usually on a Type SF Winding Head. There is a feed trough in the Starch Frame which is filled with the starch or other powdered material. The starch is fed down through perforated metal in the bottom of a trough to apply it evenly to the fabric as it enters the Starching Frame. A revolving roll with leather wings runs in the lower part of the starch trough.

Curtis & Marble
MACHINE COMPANY
WORCESTER, MASSACHUSETTS

You'll Seldom See
Your Maintenance Man
Hovering Over A
UNI-PULL DRIVE





A passing glance is usually all the attention a Uni-Pull drive needs from a maintenance man.

HERE'S WHY...The motor base automatically maintains belt tension...assures uniform pull around the pulleys...eliminates slide-rail tension-guesswork.

The flat leather belt pulls as a unit. No separate and uneven tensions. No danger of the misalignment wear you can get with multiple, groove-trapped belts.

If you're interested in years of service with minutes of maintenance, ask your leather belting supplier about Uni-Pull.

American LEATHER BELTING Association
Headquarters for Authentic Power Transmission Data
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AL 52

eveness of distribution of the naphthol throughout the piece—eight ends or more as required, depending on the particular material being processed.

2. This naphthol application was then followed by an intermediate drying. Afterwards, the fabric was treated on the jig with the necessary acidified base, a mineral acid, at 140° F., six to eight ends at a time, and then squeezed in a quetsch to remove excess liquor.

3. The nylon material was then treated in a bath containing an acidified nitrate-of-soda solution. This treatment fully developed the shade at a temperature of 160° F., again with six to eight ends as needed. This step was followed by a rinse in warm water and then a thorough soaping for its final shade development and for removal of all residue. This newer method is today giving excellent production-run results in decidedly improved fastness to crocking, rubbing, washing, and wet processing; and in many instances it gives good fastness to chlorine and light.

OTHER METHODS TRIED. Very recently, as a result of considerable research in vat-dye application on nylon fabrics, a synchronized continuous pad-stream range has been experimentally employed in the application of this class of dyestuffs.

Nylon material is run from the roll into a two-roll one-dip padder containing a water-pigment solution of the color at 212° F., at a speed of 20 to 30 yd. per min. Next comes a drying operation in a drying unit equipped with a closed steam-heating unit designed to prevent water spotting. Spotting must be carefully prevented since the spots persist afterwards in the finished fabric. Drying is carried out at a temperature of 245° F. Following drying, the goods enter a steaming compartment. This compartment is of sufficient size to allow the fibers in the goods enough time to expand, at 245° F. This treatment helps the dyestuff to penetrate more uniformly into the fabric before the fabric is immersed in the three-roll two-dip padder which follows.

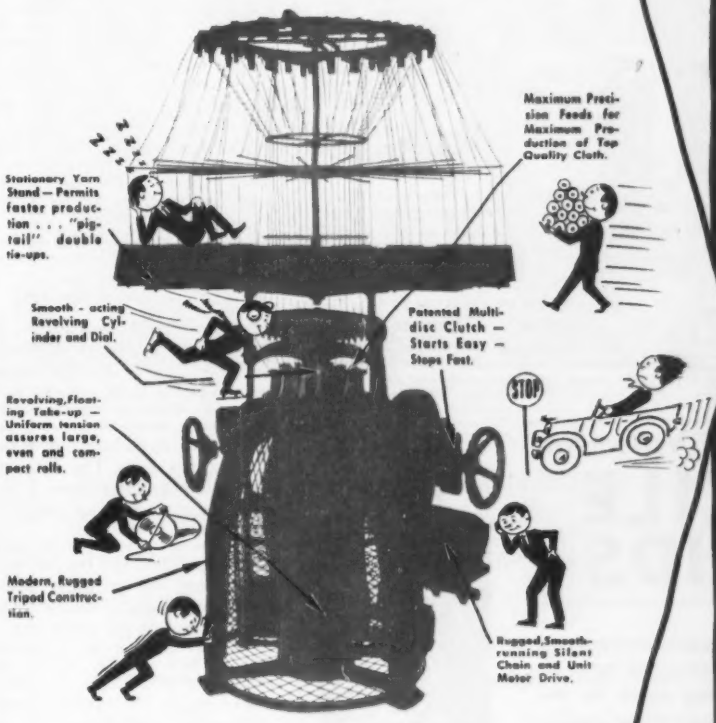
In this latter unit, the goods are run through a dye and chemical bath at 212° F. and immediately enter an oxidizing unit containing a 400-gal. bath of either chrome and acid, or perborate and acetic acid or peroxide at 180° F. From this last unit, the goods enter a compartmental washer-soaper unit where they receive a warm wash, a boiling soap treatment, and a final wash, rather warm. The goods are now ready for drying and finishing.

As in the case of dyeing nylon on the covered jig, a similar substitution

For more information, write direct or use Reader Service post card.

MEET SUPREME'S WHOLE FAMILY OF PROFIT-KNITTERS

. . . and the mill-proven features they all inherit—


Stationary Yarn Stand—Permits faster production . . . "pig-tail" double tie-ups.
Maximum Precision Feeds for Maximum Production of Top Quality Cloth.
Smooth - acting Revolving Cylinder and Dial.
Patented Multi-disc Clutch — Starts Easy — Stops Fast.
STOP
Revolving, Floating Take-up — Uniform tension assures large, even and compact rolls.
Modern, Rugged Tripod Construction.
Rugged, Smooth-running Silent Chain and Unit Motor Drive.

Model SR—KNITS PLAIN OR SWISS RIB—up to 56 Yards Per Hr.
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Model WJ—KNITS WIDE DIAMETER AND BODY-SIZE JERSEY—up to 125 Yards Per Hr.
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Model IC—KNITS FLEECE COATINGS —up to 30 Yards Per Hr.

Supreme's extraordinary engineering progress has emphasized versatile, high speed production of top quality cloth at low cost. This has been done without sacrificing any of the basic, proven and standard Supreme design features which are familiar to every Supreme user. These features play a vital part in making every Supreme machine a profit-knitter.

Ask for complete, free information on any of the Supremes shown here.

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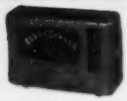

Model 185 Hygradial Precision Humidity and Temperature Indicator
Hair-operated and calibrated to professional standards of accuracy by the maker of the world's finest weather instruments. Handsome, modern case—4" high, 5½" wide, 1⅝" deep.

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Accurate readings obtainable without special skill. Psychrometric readings can be taken at any point desired however inaccessible.

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3" x 5" charts, 10 or 30 hour records. Modern design...handy for small space and difficult locations ...built to meet unusual conditions.

Model 594 Hygrothermograph
The foremost relative humidity recorder for laboratory, factory, and office use. Scientifically designed for accuracy and dependability.

Model 573 Motor Aspirated Psychrometer
Designed to determine wet and dry bulb temperature with laboratory accuracy—Motors supplied for use on 115 V., 50 cycles or 60 cycles.

Model S/1 Pocket Sling Psychrometer
A small, low cost instrument. Thermometers graduated in 1° increments from +35° F to +110° F. Furnished complete with case and psychometric slide rule.

Model 550 Sling Psychrometer
Manufactured to U. S. Weather bureau specifications. Thermometers graduated in 1° increments from −20° F to +120° F. or −35° C to +49° C.

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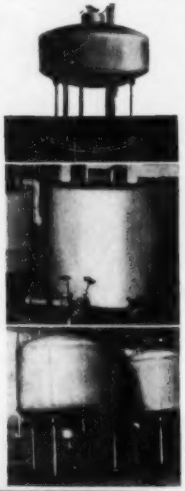
TEXTILE LIQUIDS



• Cole builds vessels to your specifications—dye-vats, kiers, starch-kettles, acid tanks, jib boxes, or other processing vessels for the finishing and dyeing industry . . . in stainless steel, nickel-clad steel, or of standard steel lined with monel metal. Our long experience in the design and fabrication of vessels for the textile industry may be of help to you. Write for latest Cole catalog—"Tank Talk."

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TANKS TOWERS CYLINDERS VESSELS

on the continuous pad-steam range of the usual hydrosulphite-caustic vat by the sodium sulphoxalate formaldehyde and caustic vat gives good stabilizing results.

In further work with the dyeing of nylon textiles with vats, dyers have tried the pad-jig method; but the results have not been very satisfactory. Attempts have been made with a three-roll padder, slowly, at approximately 30 yd. per min. because of the very slow pickup of the vat color. Development followed on the enclosed automatic jig. Padding was conducted at the boil, and developing on the jig was carried out at the same high temperature with a vat-developing bath of the same type, with sodium sulphoxalate formaldehyde hydrosulphite. The results, however, were more or less surface dyeings. Because of this fact and because of the slow time element involved, the use of this method is precluded for quantity-production purposes.

Homogenizer

(*Continued from* page 123)

Included in our plans for the permanent installation is the location of the slurry tank at the starch-storage area and piping of the cold mix to the new unit. These changes will eliminate trucking starch through the plant and will give us additional floor space in the slasher room. The entire unit occupies a floor space about 7x2¼ ft. and is placed next to the outside wall in our slasher room.

Steam is brought in from the boilers at 85-lb. pressure, and the delivery to the jacketed heat exchanger is automatically controlled by a regulator that allows control of the starch paste at any desired temperature. In our operation we heat to 184° ±2° F. and homogenize at 1,500 psi. The exhaust steam from the Hydropulse is trapped and returned to the boilers. We have found that it requires less steam to prepare our size than it did for kettle cooking and heating with live steam. The varying dilution of the size mix with the condensate from live steam is entirely eliminated.

Savings Made In Starch and Steam

Several advantages are apparent. Under the old system of cooking, laboratory tests showed variations in added size from 9 to 14%. With the Hydropulse we have been adding from 12 to 13½%—a variation of only 1½%.

Summarizing, we have found, (1) a saving in steam consumption, (2) a saving in sizing materials, (3) increased efficiency of the slasher tenders

Hyatts are "Built In" to help you "Turn Out" more goods

For a good many years, the leading builders of looms and preparatory and finishing machines have been using Hyatt Roller Bearings to help you make more and better yarn or cloth at less cost.

By "building in" Hyatts at the important operating positions, they assure you of better performing, longer-lived and more dependable equipment — free from bearing wear and care.

Hyatt Roller Bearings are standard equipment in many machines or can be specified when you purchase new equipment or make changeovers. Write us if there is any bearing data you may desire. Hyatt Bearings Division, General Motors Corporation, Harrison, New Jersey.

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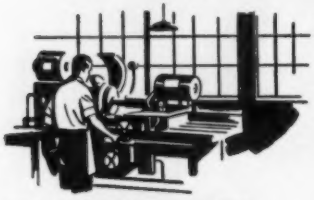
American Blower...a time-honored name in air handling

Charlotte, N. C., has a conveniently located American Blower Branch Office to provide you with data and equipment for air handling. You can reach American Blower in Charlotte by calling 3-8444. In other cities, consult your phone book.

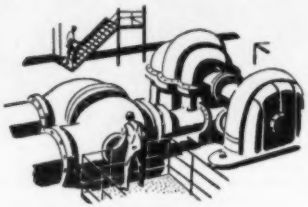


FOR MILLING, GRINDING...

Dust from grinding machine operations created a problem in the plant of a major steel file manufacturer. Then, several American Blower Type E Industrial Fans were installed. Now, the plant is cleaner, safer, and working conditions more pleasant. Type E Fans are specially designed to remove shavings, sawdust, dust from grinding and buffing, to convey material, remove smoke and fumes, and for many other applications. Can American Blower products help you?

MORE EFFICIENT POWER...

American Blower Induced Draft Fans play an essential part in the operation of a new military air station power plant. High static efficiency, low RPM, low tip speed and low inlet velocity are important operating characteristics of these dependable fans. In military or civilian installations, American Blower equipment meets the most exacting power plant requirements. If you are enlarging or expanding your facilities, consult us.



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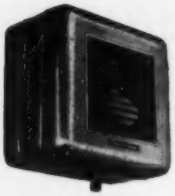
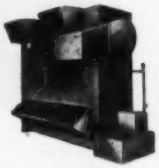
A large midwestern city recently invested in an American Blower Gyrol Fluid Drive for one of its municipal water supply pumps. After two months the average power requirements dropped from 932 kilowatt hours per million gallons of water to 718 kilowatt hours—a reduction of 23%. After the first year the increased power savings and added flexibility of control justified the addition of a second fluid drive on a larger unit. Could *you* save with Gyrol Fluid Drives?

If you're faced with changing from civilian to military production, let American Blower supply you with the air handling products that improve comfort and efficiency in business. For full data on American Blower heating, cooling, drying, air conditioning and air handling equipment, phone or write our nearest branch office.

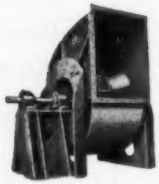


Unit Heaters

Ventura Fans



Air Conditioning Equipment



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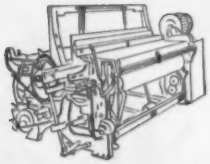

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CHECK STRAP PERFORMANCE

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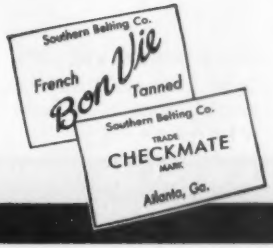
Through literally thousands of tested hours of operation in many different mills, under all kinds of conditions, CHECKMATE and BON VIE check straps have been PROVEN SUPERIOR. Superiority which results in longer check strap life, more consistent, efficient loom operations and better quality production. The reason for CHECKMATE and BON VIE PROVEN SUPERIORITY is simple:

The leather used is specifically selected, tested for substance by detailed physical and chemical analysis of every lot of leather, and proven on the job. It is the finest quality leather of its kind produced anywhere in the world today.

"Southern" check straps have been proven in hundreds of mills. We can prove them in yours.



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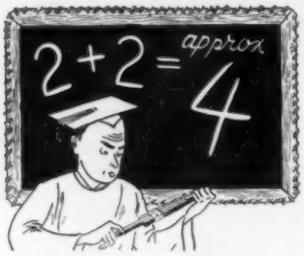
TRAINED MEN ARE SCARCE!



Are You Sending a
MAN
on a Boy's Errand?

Technically-trained men are getting scarcer. Yet many concerns are tying up their engineers and chemists on routine testing jobs where their talents are not most effectively used.

Why not send your routine testing to an outside laboratory? You can then assign your own trained technical men to your more urgent and unusual problems of product development, trouble-shooting, and tasks involving close familiarity with your own operations.

We are particularly adapted to handle routine problems ordinarily flowing through your laboratories. Our staffs include engineers, chemists, physicists, biologists, and specially trained technicians. Our scientific equipment is unusually extensive and includes such facilities as a radioisotope laboratory and a spectro-chemical laboratory which are, for the most part, outside the scope of the plant laboratory.

Let's get together for discussions. We are sure we can help you release your valuable technical staffs for the critical problems you are facing.

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since they do not have to supervise cooking, and (4) better warps since freshly prepared size is always being fed to the size boxes.

Our record in savings on starch and starch cost indicate that the equipment will pay for itself in about 9 mo. and after that will pay us a steady dividend in money and quality.

Presetting Nylon Stockings

(*Continued from page 145*)

takes the wooden pieces that have 20 doz. stockings on them from the knitters' cabinets and leaves empty wooden pieces on the cabinets. These wooden pieces are 1¼ in. square, 36 in. long, and have 20 hooks—10 on each side.

The pick-up girl pushes her full truck back to the presetting cabinet. As soon as the previous load of stockings is taken out of the cabinet, she starts the new load.

Then she pushes the full truck to the seaming department, where she puts the wooden pieces on racks at the seamers' machine. The stockings are not touched by hand from the time the knitters tie them until the seamers untie them.

I have had experience with only the Lydon presetting cabinet, but two or three other makes are on the market. Our cabinet is fully automatic and has a timer that indicates with colored lights which cycle the cabinet is going through.

Our cabinet is model 5B-9B and is 47 in. wide, 57½ in. deep, and 77 in. high on the inside. The main fan, in the side of the cabinet, is V-belt driven by a ¾-hp. motor.

Daily operating cycles and wet- and dry-bulb readings are recorded by a two-pen Brown electrically operated controller. The wet and dry bulbs are stainless steel and have a range of 51 to 250° F.

A presetting cabinet can be installed in your plant by the average fixer or maintenance man in three or four days.

Because of shrinkage, the knitting should be one course per inch looser than it was before a presetting cabinet was used. If you are knitting less than 49 courses per inch on a 51-gauge 15-den. stocking, it would be better to add a few courses to the over-all length than to knit looser.

You should add 0.002 rocker to offset the shrinkage on all sized and twisted reinforced-heel and -sole yarns.

The cabinet should be cleaned out once each week. The wick used to get the wet-bulb reading should be washed out every week, and a new one should be installed every 6 mo.

LIFE-LUBE
BALL BEARING
PILLOW BLOCKS
...THEY'RE PERMANENTLY LUBRICATED AT THE FACTORY

Now, you can eliminate troublesome, time-consuming and expensive Pillow Block lubrication. *Install Wood's LIFE-LUBE Ball Bearing Pillow Blocks.* They're equipped with MRC Bearings *permanently lubricated* at the factory with a thoroughly tested and approved ball bearing lubricant. *No further lubrication is required — lubricant and periodic lubrication costs are eliminated.*

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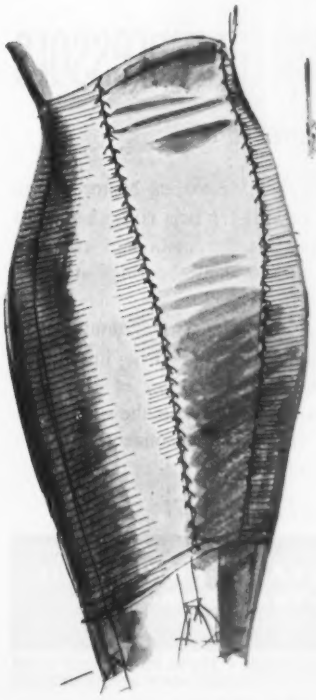
FOR TOP QUALITY

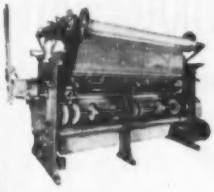
Elastic Fabrics

Step up production, cut costs with the high speed *Kidde* Knitter. Yes, you can get finest quality elastic net for girdles, foundations and brassieres at speeds you never believed possible.

The *Kidde* Knitter can *sustain* these high speeds because it is ruggedly built to absorb the strains of elastic. The power let-down for controlling the rubber beams is non-electric, reliable in action. The needle bar motion is specially designed for speed with heavy loads.

Use the *Kidde* Knitter to cut your knitting cost on elastic fabric. See for yourself the advantages that have made it the most popular Raschel machine in the trade.



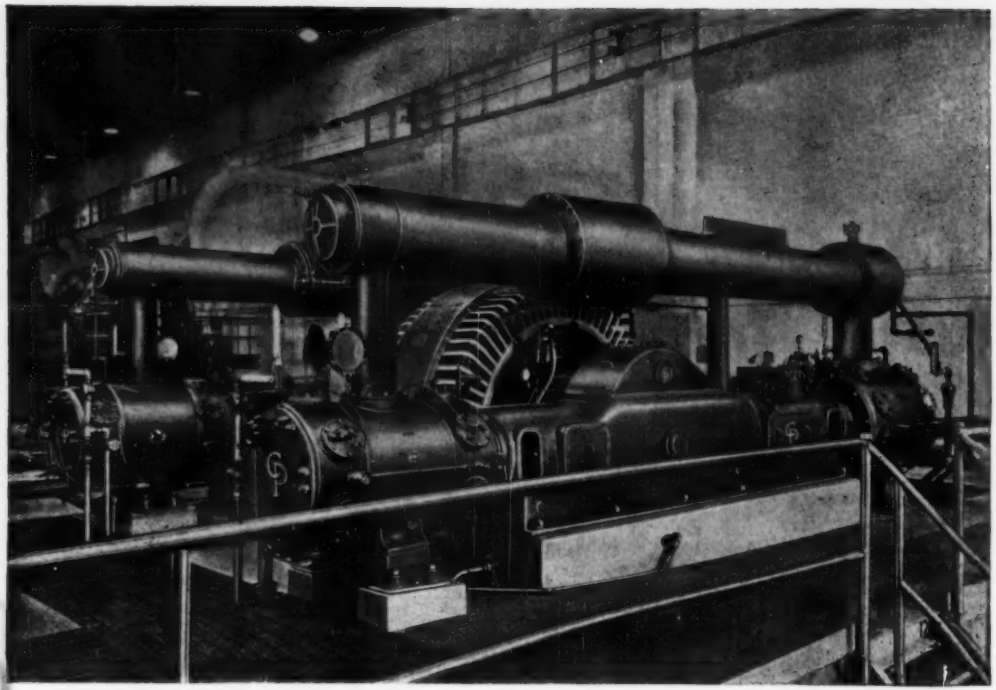


Use the Kidde Knitter to make these fabrics, too:

Dress Fabrics—Veilings and Nettings—Dishcloth Material—Curtain Fabrics—Narrow Fabrics—Shoe Cloth—Laundry Nets—Knitted Outerwear Fabrics for Sweaters and Polo Shirts

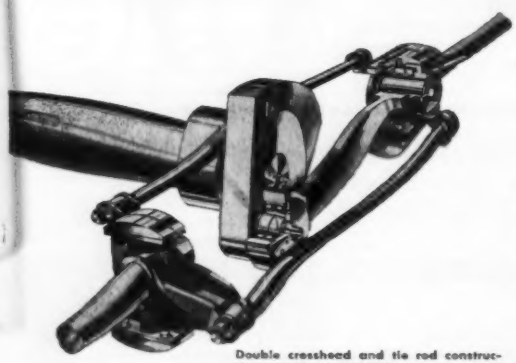
KIDDE MANUFACTURING CO., INC., BLOOMFIELD, NEW JERSEY

The word "Kidde" is the trademark of Walter Kidde & Company, Inc., and its affiliated companies.



CP FOUR-CORNER motor-driven compressors

6,000 to 12,000 cfm piston displacement at 100 lbs. pressure



Double crosshead and tie rod construction provides straight-line transmission of power — with only one connecting rod. Roller bearings and crank discs are mounted by the oil injection method.

Class H-CE Duplex Synchronous Motor-Driven Compressors have anti-friction roller bearings throughout: spherical roller main and crankpin bearings . . . heavy-duty needle bearings at crosshead pins.

The use of roller bearings in the running gear, and the oil injection system of bearing installation and removal, eliminate all danger of misadjustment in maintenance, and permits the use of one-piece crank disc and solid-end connecting rods — the strongest and safest type.

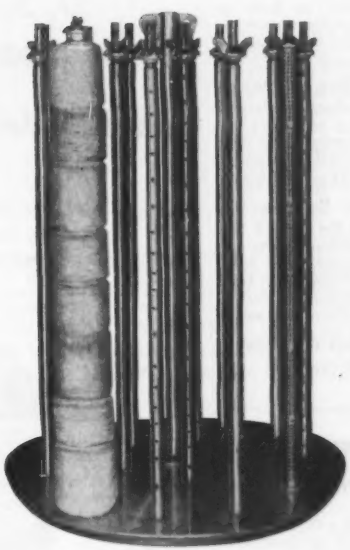
Write for Bulletin 726-C

CHICAGO PNEUMATIC TOOL COMPANY

General Offices: 8 East 44th Street, New York 17, N. Y.

PNEUMATIC TOOLS • AIR COMPRESSORS • ELECTRIC TOOLS • DIESEL ENGINES
ROCK DRILLS • HYDRAULIC TOOLS • VACUUM PUMPS • AVIATION ACCESSORIES

Machine Parts Give Long Life when they're made of *Carpenter* Stainless Tubing



These spindles and perforated dye tubes are wonderful examples of machine parts that reduce your maintenance costs. During their extra long life, they resist corrosion. They are easy to keep clean. And they have the *strength* to withstand continuous use and occasional mishandling by unskilled labor.

For extra protection against equipment down-time, for long equipment life, many machine manufacturers are using Carpenter Stainless Tubing for rolls, rods, tubes, etc.

Get in touch with your equipment manufacturer, or write us about your production problems that might be solved by this corrosion-resistant, strong tubing.

THE CARPENTER STEEL COMPANY
Alloy Tube Division, Union, N. J.
Export Department: Reading, Pa. "CARSTEELCO"

THE U.S. NEEDS YOUR STEEL SCRAP NOW

Carpenter
STAINLESS TUBING

—guaranteed on every shipment

Authorized distributors in principal cities are qualified to help you get better processing results with Carpenter Stainless Tubing. See your classified telephone directory.

Step Up Volume . . . Cut Extraction Time

Tolhurst's popular 40" and 48" Center-Slung machines are ideal for extracting cotton and wool raw stock, yarn, packages, yard goods, tubing, paper mill felts and many other products. These extractors are sturdy, speedy, safe and easy to operate. They're exceptionally smooth-running because they are free to find their own center of gyration. Tolhurst's patented Center-Slung design assures smooth operation even with out-of-balance loads.

STANDARD EQUIPMENT

Tolhurst 40" and 48" Center-Slung Extractors are furnished with stainless steel basket, mechanically and electrically interlocked safety cover, automatic timer and brake.

TOLHURST

*Center-Slung** EXTRACTORS

*TM Reg.

SEND TODAY FOR FREE CATALOG . . .

TOLHURST CENTRIFUGALS DIVISION
AMERICAN MACHINE AND METALS, INC.
Dept. TW1051
EAST MOLINE, ILLINOIS

WITHOUT OBLIGATION, send Tolhurst catalog on Center-Slung and other extractors especially designed for the textile industry.

Firm Name_____

Street Address_____

City & Zone_____ State_____

Sender's Name_____

Pointers for Supervisors

(Continued from page 178)

been friendly with the employee and who witnessed the incident is more convincing than two dozen witnesses who were unfriendly with him.

In short, before you discipline an employee be sure beyond a reasonable doubt—as lawyers say it—that the employee is guilty.

Tell the Employee Why

The employee is entitled to know why he is being disciplined. Be sure you tell him your exact reason, and don't change your mind about what his offense really was. If you tell a worker he is being penalized for refusing to obey orders, an arbitrator won't uphold your discipline if you say later the offense was using abusive language.

Removing the Cause Produces the Best Results

These points should be kept in mind when you discipline workers. But here is one factor to be considered that is not mentioned directly in arbitrators' rulings. Your objective as a supervisor is not to discipline but to get out the work. And you can't get out the work without people. As long as there are people, mistakes are made and rules are broken. Discipline when discipline is called for. But more important, try to get at the root of the problem and cure the disease. Work with the employee to help him overcome his bad habits of coming in late, using foul language, goofing off during the day and so on. There are ways. Most modern personnel departments can help you lick such problems.

Research Evaluator

(Continued from page 131)

that guide existing departments toward a more effective performance and bring into the organization thinking that is the result of outside contacts and experiences.

It follows that eventually definite responsibilities and authorities can then be taken over by the research organization, and existing facilities and personnel can be supplemented to strengthen weak spots and to prepare for a more comprehensive program, in line with the desired balance of the final organization. In spots where individual aspects of the work are particularly weak, control of these facilities may be accepted preferentially,

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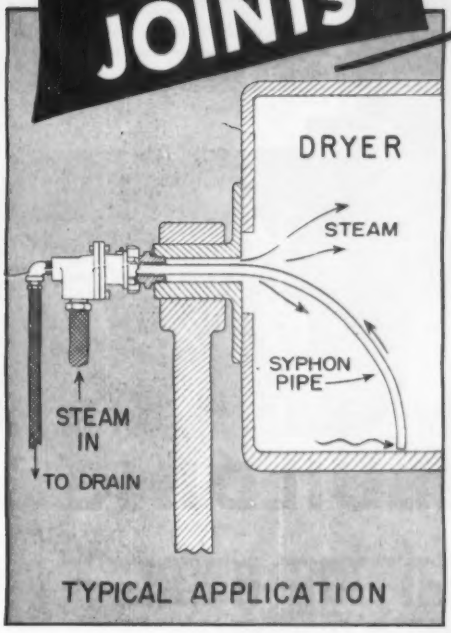
W. P. Vaughn, W. H. Rose, Greenville, S. C. Box 1049—Phone 3-0915
O. B. Land, Athens, Ga. Box 1187—Phone 476
L. H. Mellor, Jr., Mid Atlantic States 123 Treaty Rd., Drexel Hill, Pa. Phone Hilltop 6-1583
H. R. Fisher, Concord, N. C. Box 83—Phone 8360
H. J. Smith, Providence Box 1187—Gaspee 1-0100

BARCO *Revolving* JOINTS

USERS REPORT . . . Many ADVANTAGES!

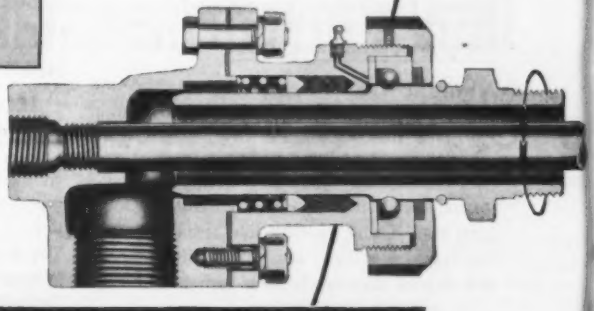


TYPICAL APPLICATION

POWER savings up to 50% . . . long, leakproof service . . . very low requirements for maintenance . . . quick, easy accessibility of parts . . . better temperature control . . . ability to withstand vibration and hard usage — these are just a few of the ADVANTAGES reported by the many users of BARCO REVOLVING JOINTS!

TYPICAL USER SAYS:

User of hundreds of joints on calenders, sanforizers, dry cans and chill rolls, Mr. S. Bernson, Chief Engineer, American Finishing Company writes, "We are well pleased . . . I hope to have entire plant equipped with Barco joints." Formerly, it was considered exceptional to have 75% of joints leak-free. Today, with the changeover to Barco nearing completion, virtually 100% leak-free service is the rule.



IMPROVED TYPE IBR REVOLVING JOINT

Here is the new, *improved* Type IBR Barco Revolving Joint! It is precision-built in *single flow* and *syphon styles* for handling steam, water, air, oil, gas, or chemicals. Note wide spacing between bearings. Inherent low torque is little affected by pressure, speed, or temperature. Light running action minimizes wear, permits free-floating installation. No adjusting necessary. For the complete story, send today for new Bulletin No. 300. *Worldwide sales and service; ask for recommendations.* BARCO MANUFACTURING CO., 1834 L Winnemac Ave., Chicago 40, Ill. In Canada: The Holden Co., Ltd.

SEND FOR NEW BULLETIN 300

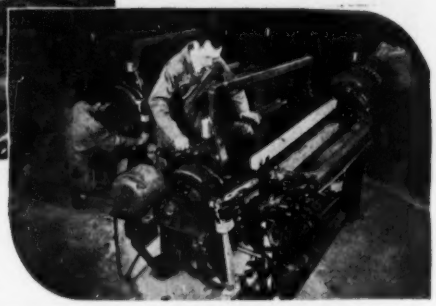
BARCO

THE ONLY TRULY COMPLETE LINE OF FLEXIBLE, SWIVEL, SWING AND REVOLVING JOINTS

FREE ENTERPRISE—THE CORNERSTONE OF AMERICAN PROSPERITY

LEFT: Plant layout permits assembly-line technique in Wilson loom rebuilding plant.

BELOW: Plant Superintendent checks every Wilson-rebuilt loom for performance before delivery.



a NEW IDEA in LOOM REBUILDING

Wilson Establishes Streamlined Loom Modernization Plant

Completed in the Spring of 1951, the new Emil V. Wilson Co. loom modernization plant at 1210 New Buncombe Rd. in Greenville, S. C., is unique in its field. The new plant, housed in a steel-and-concrete structure, contains 10,000 square feet of floor space, and has 1,500 loom parts bins. Using assembly-line technique, Wilson-trained mechanics can now rebuild, inspect, and ship 60 "like new" looms each week.

Assembly From Loom Frames Plus Rigid Performance Inspection

Looms to be Wilson-rebuilt are first stripped to the frames, and worn or obsolete parts are discarded. Rebuilding is done according to mills' specifications, from an adequate supply of perfect parts, and under the careful supervision of Wilson loom engineers. A system of gauges and checks is used to determine accurate assembly.

New-Loom Performance From Wilson-Rebuilt Looms

As a final test, each Wilson-rebuilt loom is started and run on the plant floor. Wilson's plant superintendent makes a final part-by-part inspection to see that every part ordered is in place. The smallest details are checked, to assure that Wilson-rebuilt looms will give new-loom performance.

Write, wire or telephone to learn how we can serve your needs in this new loom rebuilding plant.

EMIL V. WILSON CO., INC.

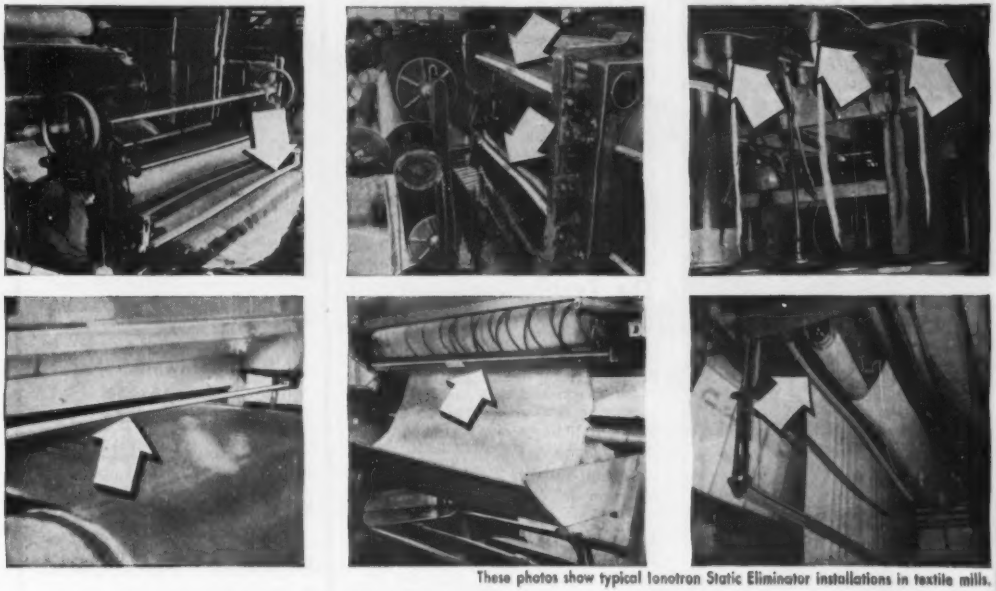
Loom modernization Specialists

1210 NEW BUNCOMBE RD., GREENVILLE, S. C.

The Textile Industry's only plant devoted entirely to rebuilding Looms.

Telephone 3-3643

Costly troubles that happen here...



These photos show typical Ionotron Static Eliminator installations in textile mills.

...need not happen in your mill

— because Ionotrons eliminate static troubles on Peraltas, condensers, pin drafters, coaters, ironers, tenter frames, and other textile machines

Like most mill men, you probably know all too well how static electricity makes fibers and fabrics difficult to handle . . . causing costly stoppages and spoilages. But you may not realize that many such troubles can be *eliminated* — practically, permanently, and safely — with Ionotron Static Eliminators.®

PROVED IN MANY MILLS

Proof of the effectiveness of Ionotrons comes from many mills. Van Raalte at Saratoga Springs reported a 5% increase in production by eliminating static-caused tension on their tentering machine. Nathan Schwartz & Sons, Philadelphia, said, "In the winter it is almost impossible to operate machines efficiently, due to heavy static charges . . . especially in nylon. With Ionotron Static Eliminator discs, this problem is easily overcome, and machines run freely and flawlessly." Broadalbin Knitting Company, Broadalbin, N. Y., installed an Ionotron bar on the Peralta of a wool card and reported 50% less spoilage, 10% more production, 10% reduction in operating time, and better-quality work. Triangle Finishing Corporation, Johnstown, N. Y., reduced cloth swing stoppages 20%. Kenwood Mills, Albany, N. Y., said the Ionotron prevents stoppages formerly caused by wool webs picking up static and winding around aprons.

GET THE WHOLE STORY

Ionotrons are an application of atomic energy. Alpha rays ionize the air in the trouble zone — and the static trouble disappears. How this works is described in a booklet we'll gladly send you.

Whatever your static trouble, you can easily find out whether Ionotrons can eliminate it. With the booklet, we'll send a questionnaire to help you describe your problem to us. Then we'll tell you honestly how effective Ionotrons would be in solving it.

If your application is for wool and worsted machines, write Davis & Furber Machine Co., North Andover, Mass. Concerning any other textile application, write Dept. T10, U. S. Radium Corporation, 535 Pearl Street, New York 7, N. Y.

U.S. IONOTRON *Static* ELIMINATOR

PACKAGE DYED SYNTHETIC YARNS

• • •

ACETATE
· VISCOSE ·
NYLON

Dyed in large batches
for plaids, stripes, fancies—
Wound form
dyeing eliminates skeins,
broken filaments.

★

Jobbers of Natural
Synthetic Yarns

★

Atlantic Rayon
CORPORATION

Dyers and Converters of Synthetic Yarns for All Industries

Plant at Providence 1, R. I.

NEW YORK
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★

leaving the more adequately operated operations undisturbed until their complete absorption is desired for over-all mill efficiency.

If the size of the company is such that a large group may eventually be supported, the research program may be divorced from the engineering functions, the quality-control functions may be taken out and placed in a separate category, and other divisions of responsibility may be arranged.

However, in a small organization, it is well to have all of these functions closely linked together under one leader to insure coordination of all the fields of endeavor.

The Textile Community

(*Continued from page 192*)

on the putting green. It turned out he had a vision defect that he did not know about, and that made the hole appear several inches to the left of where it actually was. He won the state championship once the vision correction was made. A similar type of vision defect in a mill worker can easily cause accidents on a safe job.

Making Good Workers Better

And, of course, many men like Jim, whose arm was crushed, can be saved from undue worry through periodic interviews on general background and mental make-up that too often cause loss of alertness and result in illness or injury. It is perfectly true that no company can shoulder a man's personal difficulties, but it is also true that worry over an obscure trouble often magnifies it out of all proportion. Interviews, properly handled, bring the worry out in the open and frequently a solution to the problem is found. Proper counsel, sympathetic advice, or a suggested change in environment may lift the pall of anxiety from a distraught mind and, thereby, make a safe job safer, and a good worker a better one.

Those mills that have inaugurated industrial preventive-medicine programs or even part of a comprehensive program, are finding the individual effectiveness of the worker an increasingly important safety and productivity factor. They are finding it good business to prevent accidents through jobs "tailor-made" for the worker.

Dyes and Chemicals

(*Continued from page 176*)

wetting agent and dye leveler. It is said to be stable to boiling alkaline solutions, and it does not break down after refluxing for 24 hr. with 3 to 6% caustic solution.

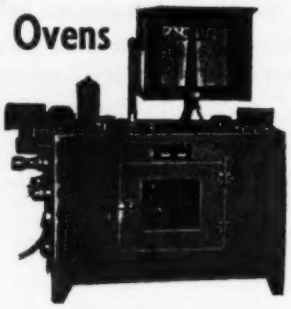
Barisol BRM is said to clear the bath

SHELL ROLLS
BLEACHING ROLLS
CLOTH ROLLS
WHIP ROLLS
HIGH SPEED
WARPER BEAMS
LOOM BEAMS
TEMPLE ROLLS
WOOD TOP ROLLS

TOP WORKMANSHIP
TOP QUALITY
TOP DELIVERY

WILLIAM McCASKIE, Inc.
Wooden Textile Specialties
Forge Road Westport, Mass.

Textile Testing Ovens

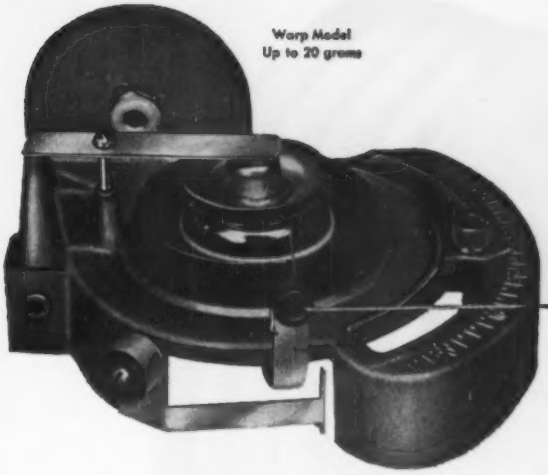


For *accurate* testing of water content in yarn. The 8-basket oven, with 3" x 3" baskets, may be changed to 6 baskets, 4¼" x 4¼" both 6" deep. Occupies table space 20" x 40".

EMERSON Ovens

Are built in different types to handle wool, cotton and silk. Baskets are designed specially for each class of work. Write for details on EMERSON OVENS to fit your process.

EMERSON APPARATUS CO.
177 Tremont St., Melrose 76, Mass.



CUT SPOILAGE

with Kidde Tension Compensators

WHY take chances on spoilage losses from uneven tensions? Kidde Compensators are now being used in more than 500 leading mills to meet varied tension problems. There are three models now available.

1. ***Warp Model.*** This produces smooth, level beams by maintaining predetermined tensions uniformly on all warp ends. Troublesome slack and tight ends are eliminated. By using a Kidde stop motion, lost ends can be controlled.

2. ***Standard Model.*** This compensator has proved highly successful for moderate speeds and tensions. It is recommended for use at speeds up to 300 yards per minute. Use it in quilling nylons and rayons . . . in warping rubber yarns . . . in winding narrow fabric bobbins.

3. ***Double Disc Model.*** This Kidde Model can maintain constant tension at speeds up to 1000 yards per minute. It is particularly suited for tender, high twist yarns and is available in two types—10 to 140 grams and 100 to 300 grams.

Find out how these Kidde tension compensators can solve your tension problems. Fill in and send the coupon below

Walter Kidde & Company, Inc.
1091 Main Street, Belleville 9, N. J.

Walter Kidde & Company of Canada, Ltd., Montreal, P. Q.

Kidde

Walter Kidde & Company, Inc.
1091 Main Street, Belleville 9, N. J.

Gentlemen:

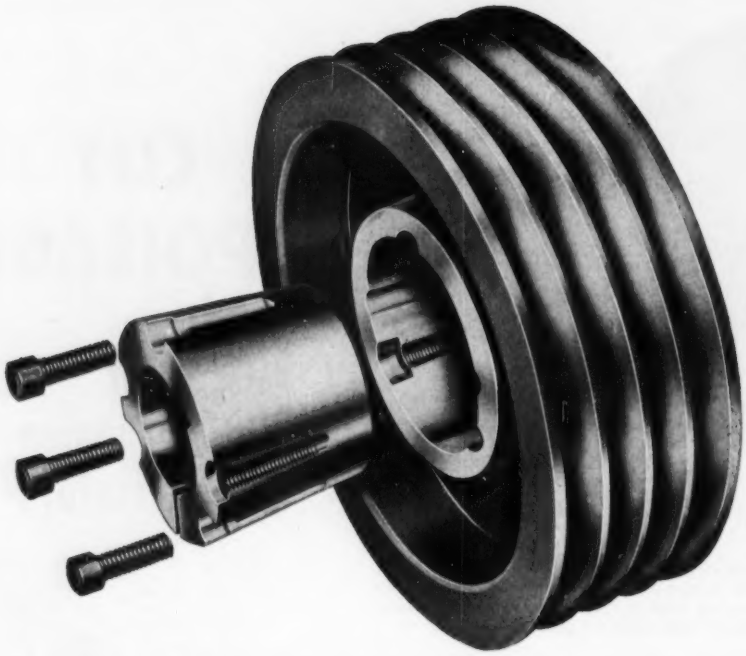
Please send me additional information on the Kidde Compensators.

NAME_____

COMPANY_____

ADDRESS_____

CITY_____ STATE_____



This is the sheave that's being used to *modernize* mill drives. Proved in over 3/4 million installations!

TAPER-LOCK

1 No flange. No collar. It's different.

2 Easy on—easy off.

3 Just tighten the screws that wedge the bushing. Simple, isn't it?

4 Always a perfect fit on shaft—tight as "shrunk-on."

5 Complete range of sizes. A, B, C and D grooves, in stock.

6 Try it—and you'll standardize on it!

DODGE MANUFACTURING CORPORATION • MISHAWAKA, INDIANA

CALL THE TRANSMISSIONEER, your local Dodge Distributor, for information on new and better methods of transmitting power. Look for his name under "Power Transmission Equipment" in your classified telephone book.

DODGE
of Mishawaka, Ind.

[redacted]

FOR YOUR NAME PLATE REQUIREMENTS, WRITE OUR SUBSIDIARY, ETCHING COMPANY OF AMERICA, 1520 MONTANA STREET, CHICAGO 14, ILLINOIS

the better way to heat transfer

More and more, the textile industry is discarding many of its once accepted methods of heat transfer. The perforated steam pipe at the bottom of a vat, for instance . . . long a source of trouble through uncontrollable dilution of the bath by condensation, and through contamination of dyes and other chemicals by rust and impurities.

Mill operators and textile machinery manufacturers have found a better way to transfer heat. They do it with shell and tube type heat exchangers — Ross Exchangers, built to eliminate these conditions.

The rapidly growing use of Ross Exchangers in many phases of textile processing is the logical and natural result of their long established reliability in other mill operations: lube oil and jacket water coolers on diesel and gasoline engines . . . inter and after coolers, lube oil coolers on heavy duty air compressors . . . oil coolers on hydraulically operated equipment. Indeed the profitable use of Ross Exchangers now reaches into practically every phase of textile operations — dye liquor heating, pre-heating for bleaching, heat removal in mercerizing; solution cooling in dry cleaning and washing; salvaging heat from waste process water, to name a few.

Whether you build or buy textile processing equipment, it is to your advantage to become familiar with Ross Exchangers . . . their pre-engineered designs and sizes . . . their standardization and mass production techniques that pay off in time and cost savings.

Write for full information on Ross standard units of all-copper and copper alloy, all-stainless steel and other materials successfully combating corrosion and rust conditions. ROSS HEATER & MFG. CO., INC., Division of American Radiator & Standard Sanitary Corp., 1444 West Avenue, Buffalo 13, N. Y. In Canada, Horton Steel Works, Limited, Fort Erie, Ont.

ROSS

EXCHANGERS

Serving home and industry

AMERICAN-STANDARD • AMERICAN BLOWER • CHURCH SEATS • DETROIT LUBRICATOR • KEWANEE BOILERS • ROSS HEATER • TONAWANDA IRON

Three Shuttle Items WELL WORTH DELIVERY

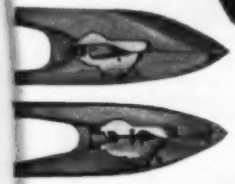
Exactly when you want them

You know from experience the value of one or more of these three Watson-Williams Shuttle Improvements. Don't be without them. Materials to make them and other parts for Watson-Williams Shuttles remain hard to get. But we can maintain your shuttle deliveries if you will give us the opportunity by ordering far enough ahead of time.

Please anticipate your Watson-Williams Shuttle Needs

The Blanchard Quarter Turn Locked Adjusting Screw which defies loom vibration and shuttle handling, to remain where you set it.

W15L Rear Tension Eye (also shown in woolen shuttle), interchangeable with other famous Watson-Williams eyes, maintains an even tension at all times on the filling, to prevent many troublesome weaving imperfections.



S7X Reverse Wind Center Tension Eye (also shown in Rayon Shuttle for S5 and S6 Looms) solves a number of rayon filling problems by holding the thread in perfect alignment and constantly down in place.

WATSON-WILLIAMS Mfg. Co.

MILLBURY, MASSACHUSETTS

SOUTHERN REPRESENTATIVES:
Watson and Desmond, Box 1954, Charlotte, N. C.
Arthur J. Bahan, 810 South Carolina National Bank Bldg., Greenville, S. C.
John Wyatt, Jefferson Bldg., Greensboro, N. C.
NORTHERN REPRESENTATIVE:
Guy C. Burbank, 32 Beaconsfield Rd., Worcester 2, Mass.

and prevent deposits of scum on the interstices of the fabric. It is used in the caustic solution of the continuous alkaline boil-off, where its sequestering action for pectic substances is said to be very impressive.

The product is described as an organic phosphate of completely new structure. Laboratory investigations reportedly point to the peculiar structure of several phosphate radicals built into the molecule as being responsible for the sequestering action on pectic substances.

Clear baths and excellent dye dispersion in vat and sulphur dyeing are said to result if 2 to 3% of Barisol BRM on the weight of the goods is used. In continuous alkaline boil-off, 1 to 2% on the weight of the goods is recommended for standard mill runs.

Protective and Dyeing Oil Developed for Wool

A highly sulphated oil, Maxitol No. 10, has been developed for wool wet processing by Dexter Chemical Corp., Box 1, Blvd. Station, New York 59, N. Y. This oil is said to promote level dyeing and assist in penetration. It is also said to protect the wool fibers in dyeing, bleaching, and drying.

Wool treated with Maxitol No. 10 is reported to show less deterioration and loss of tensile strength and to have a softer and loftier hand. Maxitol is said to keep dyestuffs well dispersed to facilitate dye penetration into heavy fabrics and hard-twisted yarns.

The manufacturer stated that Maxitol No. 10 forms a stable compound with the basic group of wool. The fibers are said to be covered with a thin film of oil that cannot be rinsed off because it is bound chemically to the wool fibers. It is said to provide the wool with the oil needed to give it fullness and to keep it soft and supple.

Glass Fibers Dyed With Vat Colors

A new process for dyeing glass-fiber fabrics is announced by General Aniline & Film Corp., 230 Park Ave., New York 17, N. Y. The process, known as Apprestan PF, develops an affinity of glass piece goods for vat pigments through the cross-linking of methyl vinyl ether maleic anhydride copolymer, a General Aniline discovery, with polyvinyl alcohol.

The process was developed as a result of the cooperative research by General Dyestuff Corp., General Aniline & Film Corp., and Owens-Corning Fiberglas Corp.

Modifications of the Apprestan PF procedure have made possible the production of a line of colors that incorporate the good fastness to washing and to light of vat dyestuff with their brilliance of shade. Apprestan PF is said to act also as a binder for other film-forming materials, such as Teflon.

In this latter procedure, the process increases abrasion resistance without impairing draping qualities of the materials.

42

STOCK SIZES IN HALLOWELL SOLID STEEL COLLARS

Precision machined for shafts from ⅜" to 3" diameter inclusive.

Write for prices and name of your nearest distributor.

SPS

STANDARD PRESSED STEEL CO.
JENKINTOWN 35, PENNSYLVANIA

why are FIBRE GLASS SUPER-HEATERS

SUPERIOR

for **heat-setting**

NYLON?

Answer:

NO YELLOWING of white goods.

"Yellowing" of white goods is a common fault of many convection systems. The black radiant heat of the Fibre Glass Super-Heater never yellows white Nylon. Our 15 customer mills proudly claim to have the whitest white goods on the market: They have!

Answer:

FAR SUPERIOR "hand."

Some mills get a poor "hand" because their cloth touches heated metal. Why put a **hot iron** on a synthetic fibre? Heat-set the cloth on the delivery end of your tenter or drier with Fibre Glass Super-Heaters in tandem with the drying operation.

Answer:

NO CHANGE ON DYED COLORS.

Many mills prefer to heat-set Nylon after dyeing and save handling costs. This is usual procedure with users of Fibre Glass Super-Heaters, because black radiant heat has no discernible effect on dyed colors—not even the delicate pastels on tricot. And glossy blacks remain glossy black.

Answer:

LEAST RESIDUAL SHRINKAGE.

We think good residual shrinkage is this: **Less than 1% shrinkage in both directions on Nylon tricot.** If you can get such results on tricot, you'll not have to worry about results on woven goods, spuns, nets and laces.

FACTS TALK

No method, no system, no machine is comparable to the Fibre Glass Super-Heater for heat-setting Nylon fabrics.

Let us give you the real facts on Nylon stabilization.

INDUSTRIAL RADIANT HEAT

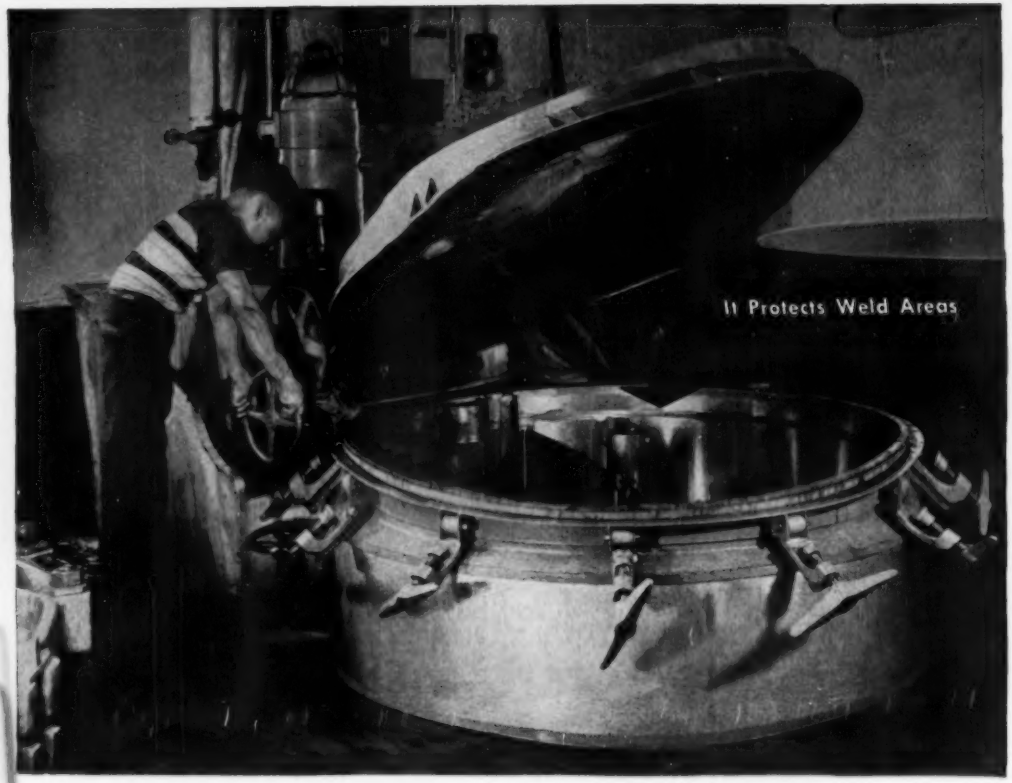
CORPORATION

SILL INDUSTRIES — *Distributor*

51 MADISON AVENUE, NEW YORK 10, N. Y.

Representatives in

CHARLOTTE • CHICAGO • PROVIDENCE



Specify "ELC" for Essential Equipment

When you buy essential new equipment or make necessary repairs involving welding, you'll want to consider the many advantages of Armco "ELC" Stainless Steels.

These special stainless steels are just as corrosion resistant adjacent to the welds as elsewhere. The reason is the Extra Low Carbon content (.03% maximum) of Armco Types 304 ELC and 316 ELC.

IDEAL FOR SYNTHETICS

Extra Low Carbon eliminates costly corrosion alongside weld areas when it is due to the heat effects of welding. This is especially important if your equipment is used in producing certain synthetics.

Another important advantage is that Armco ELC grades *cost less* than corresponding types stabilized by the addition of columbium or titanium.

WIDE RANGE OF USES

Armco ELC grades can cut operating costs and prolong service life in agers, bleaching and fulling machines; in carbonizing equipment and dye kettles; and in all kinds of equipment for the production of synthetics. It is not recommended when service temperatures are above 800 F.

Find out how *you* can take advantage of the special properties of Armco ELC. Just write us, or ask your equipment fabricator to inquire.

ARMCO STEEL CORPORATION

3861 CURTIS STREET, MIDDLETOWN, OHIO • PLANTS AND SALES OFFICES FROM COAST TO COAST • EXPORT: THE ARMCO INTERNATIONAL CORPORATION

ARMCO

How low
can down-time get?

If you're seeing red because of down-time, it can get you pretty low.

We don't claim miracles, but we think we can convince you that Carrier Air Conditioning can pay for itself by reducing down-time . . .

. . . With your evap cooling system, temperature varies with outside conditions. Without absolute control of temperature, you just can't get the best performance out of your men and your machines. Dimensions and tolerances fluctuate with heat change, throwing machines out of adjustment. Workers can't help being careless when they're hot and tired.

And what about the overhead when those machines are down because of absenteeism and turnover?

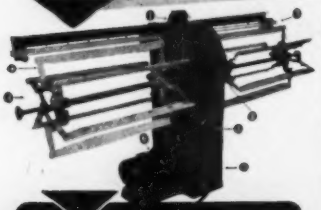
Any way you look at it, it all adds up to lots of down-time. And *absolute* control of both temperature and humidity with refrigeration is the answer.

Because with a refrigeration system, you don't care about outside conditions. Write us. We can tell you how your present system can be switched over. Carrier Corporation, Syracuse 1, New York.

The Pacolet Manufacturing Company cut the number of ends down in half by adding Carrier refrigeration to their existing spinning room system—and reducing their relative humidity to an ideal of 50%.

Relative humidity 60%, constant summer temperature 86 degrees in the Judson Mill where filament rayon is processed. The system is a Carrier Central Station, with a 600-ton Refrigerating Machine.

The New
FIDELITY SKEIN REELER
OFFERS THESE IMPORTANT
Improvements



1. Automatic skein-weight control.
2. Variable speed control.
3. Free-end collapsible reels.
4. Adjustable reel size.
5. Adjustable yarn traverse.
6. Automatic motor brake.
7. Pedal brake release.
8. Push button start-stop switch.
9. Enclosed drive, safe, compact.

The most radical development in skein reeler design in more than forty years.

Operator efficiency may be increased from 25% to 100% depending on yarn processing methods.

Automatic features eliminate the necessity for constant attention, permitting one operator to service several machines.

Available single end or double end, handling from six to twelve skeins, these new skein reelers are a challenge to old-fashioned production methods. Write for the latest information on this marked advance in skein reeling.

Manufacturers of Intricate precision machinery Since 1911.

FIDELITY MACHINE COMPANY INC.

3908 Frankford Ave., Phila. 24, Pa., U.S.A.

FIDELITY MACHINE COMPANY, INC.
3908 Frankford Avenue, Phila. 24, Pa.
Please send me at no obligation:
☐ Brochure, "The Fidelity Skein Reeler".
☐ Simplified Skein Reeler Production Charts.

Company_____

Address_____

Name_____ Title_____

What Is DENIER?

By C. BOYER
American Viscose Corp.

- *What does "denier" mean?*
- *When is "denier" used?*
- *How is it determined?*

TO MANY MILL MEN the term "denier" is a completely familiar word, but to many others it has little meaning. Since more and more mill men who have been dealing with other yarn-numbering terms (hank, run, etc.) are now handling synthetic yarns, an explanation of denier would be useful.

All textile yarns, whether from natural or man-made fibers, vary in size; and to designate this coarseness or fineness a yarn-numbering system is used.

What does "denier" mean?

"Denier" is a word used to describe the numbering system for silk yarns and many man-made fibers. By definition, denier is the weight in grams of 9,000 meters of yarn. Therefore, to be dull about it, we could say that:

1. Denier is a unit of measurement that reflects weight per unit length.
2. Denier denotes weight in grams for 9,000 meters of length.
3. Denier denotes the coarseness or fineness of a yarn.
4. Denier relates to the size or the diameter of the yarn.
5. The lower the denier, the finer the yarn.

The term denier came into use centuries ago, when merchants used a legal coin called a denier as a weight to determine the size of the silk yarn bought or sold. When rayon was first produced and was called "artificial silk," it was quite natural for the denier system to be applied to rayon continuous-filament yarns. Later, when rayon staple was manufactured, the individual fibers or cut filaments were numbered according to denier.

Practical Applications

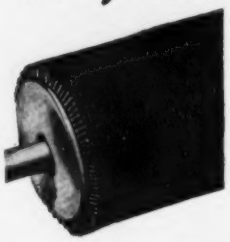
The basic unit of the denier system is: No. 1 denier equals 4,464,528 yd. per lb.

By contrast:

No. 1 singles equals 840 yd. per lb. (cotton system)
No. 1 run equals 1600 yd. per lb. (woolen system)
No. 1 singles equals 560 yd. per lb. (worsted system)

This comparison illustrates that one

IN-DUS-CO
Raising Brush



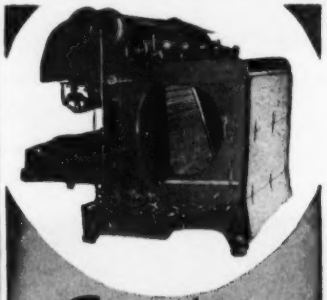
CAN'T STREAK GOODS

Because of the uniform, dense surface presented by the nylon bristle of this metal core brush, every bit of the nap in woolens and worsteds is raised and properly sheared. This brush can't streak goods as tufted brushes do. Because of its metal core the brush remains in perfect alignment throughout its life.

Used by leading woolen and worsted manufacturers.

Write for full details and prices.

INDUSTRIAL BRUSH COMPANY
Woodside Avenue Little Falls, New Jersey



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Harwood
Aprons
for BRAMWELL® FEEDERS

Geo. S. HARWOOD & Son
50 Lagrange St., Worcester 8, Mass.

MORE HEAT . . . LESS MAINTENANCE with TEXTILE THERMOLIERS

The record is clean! Whenever Textile Thermoliers have been installed in a mill, no matter how severe the conditions of lint and fly, the results have been the same . . . more heat, less maintenance.

The Textile Thermolier's special heating element is the answer. It consists of a series of webbed, pitched U-tubes parallel to one another and assembled into a single header. An extension of the web on the trailing side increases the heating area, while the absence of conventional fin edges minimizes the collection of lint, fly and dirt on the heating surfaces. Result: Textile Thermoliers stay cleaner, providing efficient heating with practically no servicing.

Avoid being caught "cold" next winter. Get all the facts on Thermoliers without delay.

WEBBED U-TUBE

- Parallel openings between the webbed tubes permit air from the fan to pass through and keep heating element clean.
- Safety and durability assured with leak-proof tube-to-header construction.
- Maximum capacity provided at all times and annoying and destructive water hammer eliminated because built-in pitch of tubes and internal cooling leg assures continuous drainage of condensate.
- Plain thermostatic trap, the simplest and least expensive kind of trap, made practical because of Thermolier's exclusive internal cooling leg.

GRINNELL

WHENEVER PIPING IS INVOLVED

GRINNELL COMPANY, INC., Providence, R. I. Warehouses: Atlanta • Billings • Buffalo • Charlotte • Chicago Cleveland • Cranston • Fresno • Kansas City • Houston • Long Beach • Los Angeles • Milwaukee • Minneapolis • New York Oakland • Philadelphia • Pocatello • Sacramento • St. Louis • St. Paul • San Francisco • Seattle • Spokane

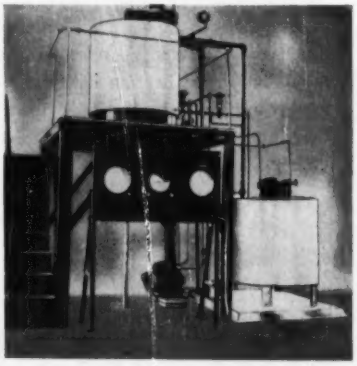
A Complete Slasher Installation by Cocker

Cocker High Speed 9-Cylinder Slasher

For Cottons—Spuns—Filaments—and other yarns

1. Stainless Steel Hood . . . by Cocker
2. Stainless Steel Drip Pan . . . by Cocker
3. Accurate Electric Stretch Indicator
4. Accurate Electric Speed Indicator

We now have complete facilities for making complete size room installations . . . stainless steel cooking and storage kettles, stainless steel hoods, stainless steel drip pans . . . as well as modern high speed Cocker Slashers for cottons, spuns, filaments, and other yarns. Let us figure on the complete installation of everything in your slasher room.



Complete Cooking and Storage Cylinder installation . . . mounted on all-metal Cocker-built tables.

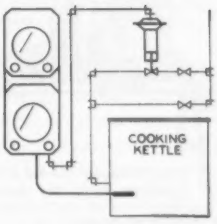
THE LEADER
COCKER
AROUND THE WORLD

Machine and Foundry Co., Gastonia, N. C.

WORLD'S LARGEST DESIGNERS AND BUILDERS OF COMPLETE WARP PREPARATORY EQUIPMENT

For more information, write direct or use Reader Service post card.

Having Trouble with your SIZE?



Instruments for indicating, recording and controlling temperature, pressure, flow, liquid level, speed, density, load and humidity.

TAYLOR can't control your waistline, but *Size Cooking Control* is a different story. With Taylor control on your size cooker, you'll get consistently better weaving, because you can depend on every batch of size being cooked exactly the same.

The Taylor Time Schedule Controller (*left*) will:

1. Control the rate of rise in the cooker.
2. Keep cooking temperature constant.
3. Control hold time precisely.

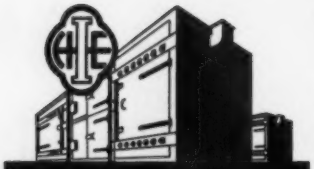
You get more uniformly sized yarn, with a saving of starch and sizing compounds. All the operator does is press a button to start the cook and then the Taylor Time Schedule Controller takes over—automatically controlling the cooking temperature and time according to a predetermined schedule.

Size cooking control is only the first step toward automatic control of the entire slashing operation. Ask your Taylor Field Engineer about automatic control systems for **size cooking, storage kettle temperature control, size box level and temperature control, and slasher cylinder temperature and pressure control.** Or write: Taylor Instrument Companies, Rochester, N. Y., and Toronto, Canada.

Taylor's Centennial
ACCURACY FIRST SINCE 1851

Taylor Instruments
MEAN
ACCURACY FIRST
IN HOME AND INDUSTRY

 For more information, write direct or use Reader Service post card.



SPECIALIZED

Drying and Singeing Equipment

Constant study of textile mills' needs for drying, singeing, curing, and related functions, and the practical application of our findings, has resulted in the highly efficient equipment listed below:

TENTER DRYERS
CLOTH DRYERS
PRE-DRYERS
CURING OVENS
WARP DRYERS
RE-CIRCULATING HEATERS
AIR HEATERS
CARBONIZERS
PIGMENT DRYERS

(all the above units are direct oil or gas fired)

DE-SIZING STEAMERS
SINGEING MACHINES
(Wool, Cotton, or Rayon)
BRUSHING MACHINES
VAPOFIER OIL-GAS
GENERATING UNITS
GAS PRE-MIX SYSTEMS
BURNERS—ALL TYPES
COMBUSTION CONTROLS
CONVERSION UNITS

(Steam to direct firing—with natural or manufactured gas or oil)

Please write for detailed information about any of this equipment, or about special installations

INDUSTRIAL HEAT ENGINEERING CO.
121 CLEVELAND ST.
GREENVILLE, SOUTH CAROLINA

denier is extremely fine—so fine that no continuous-filament yarn is made that fine. However, 1.0-den. rayon staple is produced and later spun into a yarn. If the staple is handled in a cotton mill, the size of the ultimate yarn is determined by the cotton-yarn numbering system. Generally, finer yarns such as 60/1 or 80/1 (cotton system) are spun from 1.0-den. rayon staple.

When is "denier" used?

Denier is used for silk yarns and such synthetic fibers as:

Acrilan	Orlon
Dacron	rayon
dynel	Vicara
nylon	Vinyon

Today, man-made fibers are produced in the forms of filament yarn, staple, tow, or all three forms. Irrespective of the form, the size is referred to as denier.

For example:

- No. 1 denier staple is an extremely fine individual fiber.
- 1100 denier is a continuous-filament yarn that is rather coarse and is used for tire-cord fabric.
- 190,000 total denier is a thick strand of untwisted continuous filaments that is easily converted to "top."

The yards per lb. would be:

1.0 den. equals 4,464,528 yd.
1100 den. equals 4,059 yd.
190,000 den. equals 235 yd.

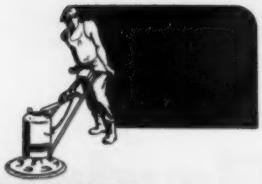
Yarns such as 1100, 1650, and 2200 den. are very coarse and are used principally for tire-cord fabrics. Yarns such as 30 or 50 den. are very fine and are usually woven or knitted into sheer fabrics.

How Is Denier Determined?

If denier is the weight in grams of 9,000 meters of yarn, a yarn of this length weighing 100 grams is a 100-den. yarn. A yarn of this same length but weighing 1,100 grams is an 1,100-den. yarn, much coarser than a 100-den. yarn.

The number of filaments in a yarn does not determine nor influence the denier of the yarn. Yarns of the same denier may be spun with different numbers of filaments, that is, a 100-den. yarn may contain 40 filaments (100/40) or 60 filaments (100/60) or 100 filaments (100/100). Each rayon producer decides how many filaments a certain yarn is to contain.

The number of filaments in a yarn is determined by the number of holes in the spinneret. Neither the size of



KALMAN PROCESS *makes* CEMENT FLOORS *tougher!*

No chance for a "softie" when you specify Kalman floors. In surfacing, Kalman "absorption control" densifies and pre-shrinks the topping, producing concrete of the highest compressive value—a uniformly tough surface of maximum durability.

Bulletin gives all the facts—yours for the asking!

KALMAN FLOOR COMPANY
110 E. 42nd St., New York 17, N. Y.
Boston • Charlotte • Chicago • Cleveland
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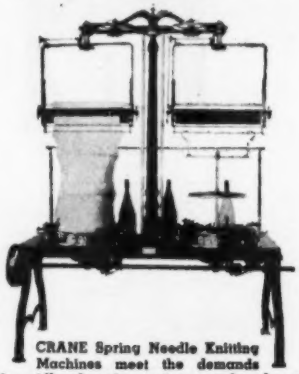
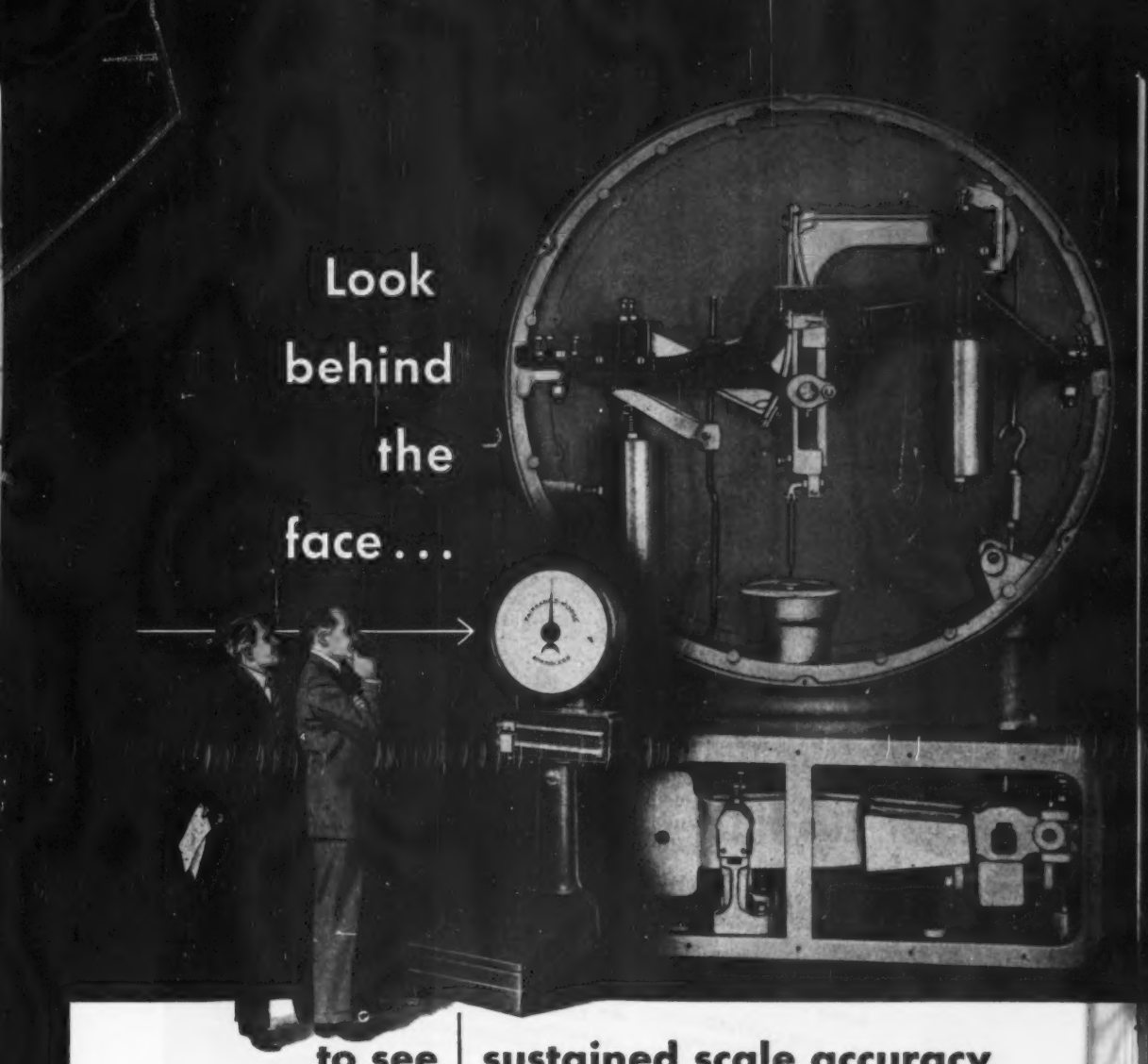
1870 CRANE 1951

SPRING NEEDLE KNITTING MACHINES
Speed - Quality - Low Cost



CRANE Spring Needle Knitting Machines meet the demands of rapidly changing patterns and styles on all weights of fabrics.

CRANE
MANUFACTURING CO.
LAKEPORT, N. H.



to see | sustained scale accuracy

What determines *sustained* accuracy in a dial scale? Simplicity and durability of the functional parts! And that's exactly what you get in Fairbanks-Morse Dial Scales.

Looking behind the dial face, as illustrated, you can see the simplicity, the durability that is inherent in all Fairbanks-Morse Dial mechanisms. The compensating double pendulums swing in opposite directions. If the scale should be tilted due to unlevel conditions, the decreased pull on one pendulum will compensate for the increased pull on the other. You get *sustained* accurate weighing.

Pendulum movement, when counter-balancing the platform load, is transferred through a *precision-cut* rack and pinion to a knife edge indicator. Indicator travels over a graduated chart where pendulum movement is translated into units of weight representing the correct platform weight.

Note the small number of moving parts. That's design simplicity. Fewer moving parts mean less chance for trouble . . . less chance for inaccuracies.

Durability of parts is hard to see in a photo, but the thousands of Fairbanks-Morse Dial Scales in successful daily service over many years are proof of durability . . . and *sustained* accuracy. Why not have your nearest Fairbanks-Morse weighing expert give you the complete story or help you with your weighing problems? Fairbanks, Morse & Co., Chicago 5, Ill.

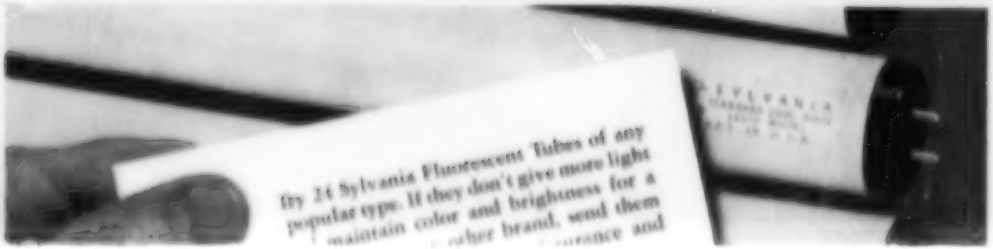
FAIRBANKS-MORSE,

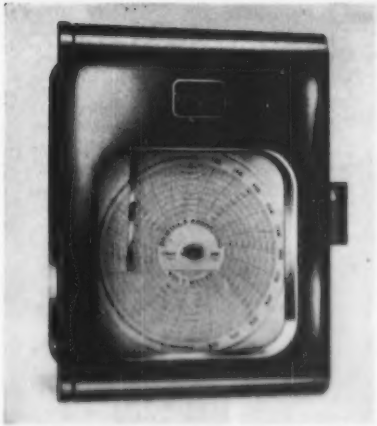
a name worth remembering

SCALES • PUMPS • ELECTRIC MOTORS
GENERATORS • LIGHT PLANTS • DIESEL,
DUAL FUEL AND GASOLINE ENGINES

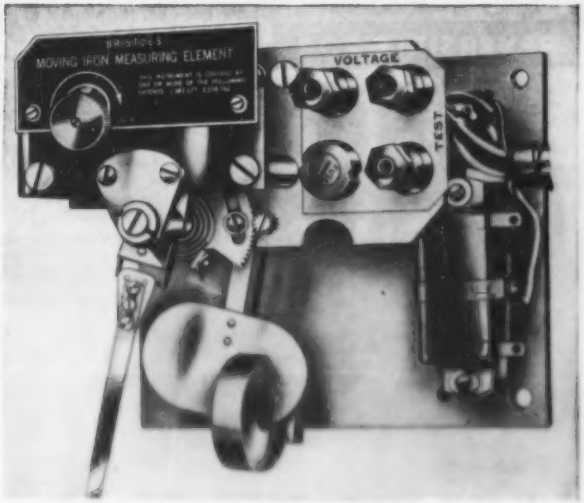
NO RISK!

If you do not agree that Sylvania Fluorescent Tubes are the finest you have ever used...return them for full cash refund!


try 24 Sylvania Fluorescent Tubes of any
popular type. If they don't give more light
maintain color and brightness for a
other brand, send them
SYLVANIA



PERMANENT MOUNTING offered in three models: interchangeable surface and flush, surface-panel and flush panel. Note the pleasing, well-balanced appearance. Also: **PORTABLE INSTRUMENTS** are offered in two models: for setting on floor or table; for mounting on walls or poles and general service.



NEW MOVING-IRON MEASURING MECHANISM. High torque, low burden, rugged construction for assurance that the original calibration will be retained through years of service. Shock-absorbing stainless steel bearings.

NEW RECORDING VOLTMETERS AND AMMETERS

ANNOUNCED BY BRISTOL

THIS MAN WOULDN'T NEGLECT

A MACHINE IN HIS PLANT

...yet he hasn't had a Chest X-Ray!

He checks every piece of mechanical equipment he owns for wear, lubrication, efficiency.

Yet he fails to take the simple precaution of a Chest X-Ray to make sure he does not have tuberculosis. *Not because he's opposed to the X-Ray. Simply because he is not sufficiently informed—or just hasn't taken the time and trouble, or does not realize the seriousness of the problem.*

A Chest X-Ray is the first step toward detecting tuberculosis in its early stages. And in its early stages it can be cured with the least loss of time from work.

So, if you're the man above, that one simple reason should make you get your Chest X-Ray—*today*. But listen, see how serious this really is:

Between the ages of 15 and 34, tuberculosis leads all other diseases as a cause of death—although at no age are you safe from TB. Yet, if everyone does his part by getting a Chest X-Ray periodically, and the majority of cases thus discovered are followed up, we can eliminate TB entirely as a public health hazard!

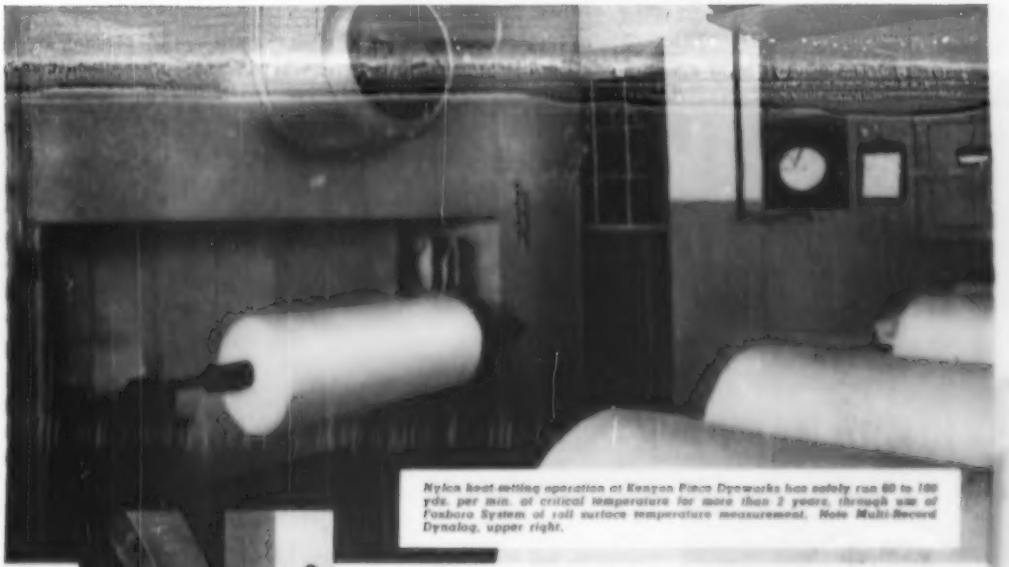
Will you do your part today? Get a Chest X-Ray. It may mean your life!

Published in the public interest by:

McGRAW-HILL PUBLICATIONS

New Efficiency for Hot-Roll Processes

...through continuous measurement of roll surface temperatures



Nylon heat setting operation at Kenyon Piece Dyeworks has safely run 60 to 100 yds. per min. at critical temperature for more than 2 years, through use of Foxboro System of roll surface temperature measurement. Note Multi-Record Dynalog, upper right.

Foxboro Measuring Heads on National Drying Machine Corporation Nylon fabric heat-setting machine at Kenyon continuously measure roll surface temperatures.

A UNIQUE NEW FOXBORO temperature measuring system now is making possible radically improved results in operating hot-roll equipment such as calenders, slasher cylinders, contact-type cylinder dryers, and pressing machines.

Based on an exclusive new-type Foxboro measuring head, coupled with the instantly-responsive Dynalog Electronic Recorder, this system provides continuous, precise records of roll surface temperatures that permit closer control than ever before obtainable.

One typical example is the Nylon fabric heat-setting operation at Kenyon Piece Dyeworks, Kenyon, R. I. Here, six Foxboro roll surface measuring heads on the 6-roll heat-setting machine are connected with a 6-point Multi-Record Dynalog*. The resulting accurate records permit uniformly safe heat-setting at 435°F., even though the melting point of nylon is only 465°F.

If you have a critical hot-roll process, investigate the unique Foxboro System for measuring roll surface temperatures. Write for Bulletin 405. **The Foxboro Company, 8410 Neponset Ave., Foxboro, Mass., U. S. A.**

*Reg. U. S. Pat. Off.

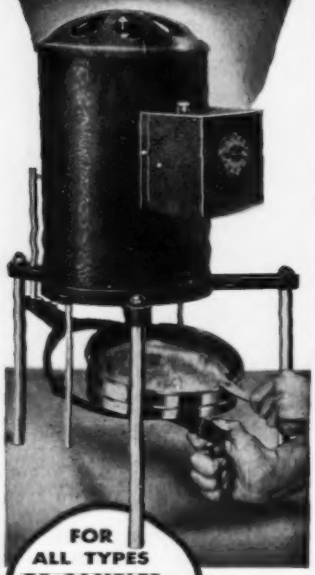
FOXBORO
REG. U. S. PAT. OFF.

RECORDING · CONTROLLING · INDICATING
INSTRUMENTS

FACTORIES IN THE UNITED STATES, CANADA AND ENGLAND

FLASH DRY SAMPLES TO DETERMINE

Moisture



FOR ALL TYPES OF SAMPLES

FIBROUS • GRANULAR

LIQUID • CRYSTALLINE

Samples of your materials can be dried and tested for moisture content in a matter of a *few minutes.* You will save valuable processing time, reduce rejections, and improve product quality, when you install a DIETERT-DETROIT MOISTURE TELLER.

The moisture test is made in exact moisture percentage and test results will check exactly with the standard oven test. No corrections or calibrations are necessary.

Write TODAY TO DEPT. T-4 FOR DETAILS

CONTROL EQUIPMENT

HARRY W. DIETERT COMPANY

9330 ROSELAWN • DETROIT 4, MICH.

fine-denier continuous-filament yarn with a minimum strength of about 5 g.p.d.

In our tests, we have used wool and rayon, wool and nylon, and cotton and nylon. We made two wool and nylon knit fabrics to see the effect of twist direction on fabric characteristics.

The combination yarns were made from 65s Botany worsted and 30-den. nylon. The worsted singles had 19 tpi. Z. One of the combination yarns had 19 tpi. Z and the other 19 tpi. S.

The yarn with S twist made a fabric that was soft and full. Z twist caused the other fabric to be crisp and lean in appearance. Both fabrics had outstanding strength. The fabrics with S twist in the yarn was strongly resistant to shrinkage under rather severe test conditions.

The benefits of this type yarn construction are more spectacular in lightweight fabrics than heavier ones. This fact was confirmed when we used a combination yarn made from 70s Botany worsted and 30-den. nylon to supplant a 52s all-wool yarn in a plain weave fabric of the same weight. The combination yarns produced approximately 25% greater tensile strength than the all-wool yarns.

Developments of this type yarn can be carried out with cotton structures. A very satisfactory shirting was made with 60s Sakel cotton and 20-den. nylon. The cotton had 20 tpi. S in the singles, and 10 tpi. S was used in the ply. The weave was plain; and the fabric had 80 ends and picks per in., 46-in. reed, and 43½-in. gray and finished width.

This fabric gave great resistance to fraying, and the nylon blends with the cotton even more harmoniously than with wool. The use of fine cotton yarns, say 100s, twisted with deniers as low as 10 or 15 would give fabrics with new and distinct properties.

Our work was done with nylon and rayon supporting yarns because they were available when we made our tests. However, it is obvious to us that the great increase in the numbers of super-strong synthetics will widen the range of fibers that can be used.

Review of New Equipment Featured in November TW

New equipment described in TEXTILE WORLD during the past year will be reviewed next month in the Annual Mill Check-Up Number.

Last year's review proved so popular with readers that they voted five to one in favor of a repeat of the feature this year. All new equipment described in the Textile Equipment News section since last year's round-up will be classified and reviewed.

Textile-mill expenditures for modernization will also be analyzed.

IT'S WHAT IS IN THE DRUM THAT MAKES THE DIFFERENCE

SCOUR BLEACH—2
for Nylons & Rayons

Scours and gives a mild Bleach for Nylon and Rayons—particularly for Pastel Shades or where clear bright color requires a clear bottom

Economical to use as Scour and Bleaching is done with one product

SEND FOR SAMPLE

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RICHMOND OIL, SOAP AND CHEMICAL COMPANY INC.

Export Agents HOWARD G. GODFREY AND CO., INC. 456 Fourth Ave, N. Y. 16, N. Y. Cable Address Godfreyorn

LAT 42 FRANKFORD AVE PHILADELPHIA 25, PA

LAZENBY FILLING WINDERS

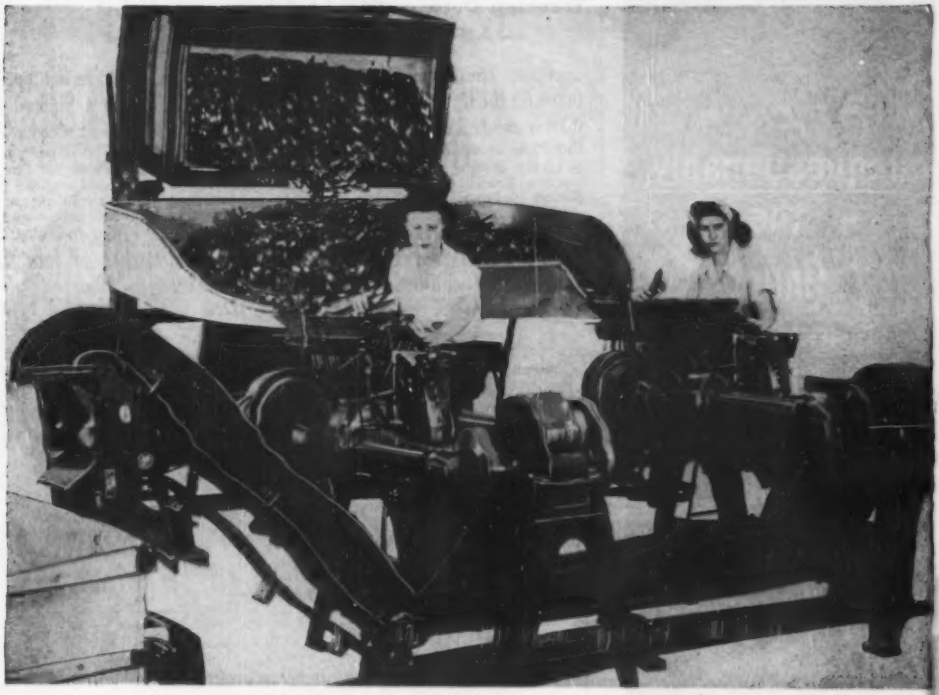
Mills weaving
TIRE FABRICS
CONVEYOR BELTS
COTTON DUCK

and other
HEAVY DUTY FABRICS

RELY on LAZENBY for COP and BOBBIN WINDERS

For either plain or automatic looms, we have the properly designed machine to meet your needs.

F. A. LAZENBY & COMPANY
3106 Elm Avenue Baltimore 11, Md.



TYPE K MACHINES - BOBBIN BOX HOIST - CONVEYORS

YOU KEEP COSTS DOWN WHEN YOU KEEP UP TO DATE

For over thirty-two years, Terrell engineers have worked continuously to help the textile industry solve its growing variety of bobbin cleaning problems. During that time, the Type K and the Type L loom bobbin cleaning machines have become a vital and increasingly important factor in over-all efficiency and economy—in mills of all sizes—in all parts of the world. Today, Terrell's modern bobbin cleaning and handling equipment offers you the fastest, safest, and most economical system ever devised for stripping waste from filling bobbins.

Terrell engineers will show you, by actual cost comparison, how much this equipment will cut your cleaning and handling costs.

OLD MACHINES RECONDITIONED

Terrell now offers
A Reconditioning Service

whereby mills can have their bobbin cleaning machines repaired, or late and improved assemblies added to them. Complete information on this unique and very practical plan is available on request.

The TERRELL COMPANY, Inc.

CHARLOTTE, N. C.

unquestionably
the
finest
leather
tapes
we
have
ever
seen

Our remarkable, new, long-life condenser tapes are available now and are selling at no extra cost. Order a set of our NEW tapes and compare.

DAVIS & FURBER
MACHINE COMPANY
North Andover, Mass. · Charlotte, N.C.
Textile Machinery
Card Clothing
Since 1832

Weaving Duck on Plain Looms

(*Continued from page 117*)

essential. The roll-and-shaft top motion with the harness cams on the cam shaft is standard equipment. The shed should be as small as possible to minimize the chafing of the yarn, and the bottom line of the shed should be pulled down to the shuttle race. A slack top line of shed, a major cause of overshots, is seldom encountered when weaving duck because the warp line is straight with both top and bottom lines of shed under equal tensions.

3. . . . Put on a filling feeler, thread cutter, and drag rolls

The loom should be equipped with a filling feeler and a Stafford thread cutter. These require special attention because the filling is changed more often than on most weaves. The heavy ply yarn is very hard on the thread cutter, but jerked-in filling is a frequent defect in this fabric and must be prevented. Filling-fork clearers and a third-end catcher will prove helpful in controlling the filling.

Drag rolls are essential to protect the let-off motion and to hold the warp taut at the beat-up. Split bars are often used between the whip roll and the warp stop motion. If not al-

Capacity of Draper Looms To Weave Duck*

All looms should be properly equipped with drag rolls, reinforced lays, proper warp stop motion, etc.

Draper Model	Heaviest possible fabrics in 30-in. to 40-in. range	Heaviest possible fabric in 60-in. range
E	Shelter-tent duck, 60x60, 20/2 W & F, 8¼ oz. 40-in. looms and under	Over 40-in. looms not suitable for even lightest duck
X	Same as E, but loom will run faster	
X-2	Possibly No. 10, otherwise same as E & K but loom will run faster	
K	Shelter-tent duck 60x60, 20/0 W & F, 8¼ oz.	
XK	Same as X	
Mod. D	No. 8 duck is probable limit 40-in. loom	No. 10 duck 64-in. loom
P	No. 9 duck is possible 40-in. loom	
XP	No. 8 duck 40-in. loom No. 6 duck possible	No. 10 duck 64-in. loom
XU	No. 6 duck 36-in. loom New looms not available	No. 7 duck possible
R	No. 4 duck 46-in. loom	No. 6 duck in 60-in. width No. 8 duck in 76-in. width
O	Built in widths from 72 in. to 110 in. Duck 80x30, 13s F, 7½s W	Extra heavy wagon cover (limit in 76-in. width)

Model XD rayon loom, and Models L & XL sheeting looms are not adapted for duck.

The following weights are based on 1 yd., 22-in. width

No. Duck	1	2	3	4	5	6	7	8	9	10	11	12
Weight	18	17	16	15	14	13	12	11	10	9	8	7

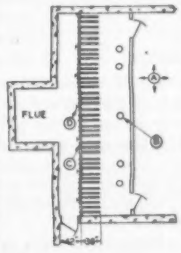
Naught Duck	1/0	2/0	3/0	4/0	5/0	6/0	7/0	8/0	9/0	10/0	11/0	12/0
Weight	19	20	21	22	23	24	25	26	27	28	29	30

* Reproduced from "Cotton Chats", Draper Corp., Hopedale, Mass.

LINT ON THE LOOSE

cost this Textile Mill both dollars and goodwill until....

AAF Airmat Lint Arrester installed in dust basement of large textile mill.



PLAN

Ⓐ-THIS DUST BASEMENT SPACE AVAILABLE FOR OTHER USE.
Ⓑ-DUCTS FROM PICKERS, OPENERS, CONDENSERS, ETC.
Ⓒ-NO. 6A OR 8A AIRMAT UNITS
Ⓓ-STIFFENER PLATE INCLUDED TO FACILITATE SUPPORT OF UNITS

AAF solved the problem with the Airmat Lint Arrester

LINT and dust created by picking and opening machines in this southern cotton mill were exhausted into a conventional settling chamber or dust basement. But the finer particles refused to settle down; found their way up the stack and distributed themselves about the area.

Neighbors complained about the unwelcome lint. Plant management bemoaned high heating costs resulting from fact that lint-laden air had to be exhausted outside rather than recirculated.

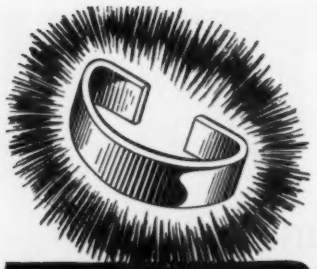
American Air Filter engineers recommended the installation of Airmat* Lint Arresters using both Airmat paper and glass fibre mats as the filtering element. Dust-laden air passing through these units is now completely cleaned. Neighbors are happy about the absence of lint—management is pleased over tangible savings resulting from recirculation of heated air.

The wise company initiates dust control rather than waiting for the public to legislate it. Practically every industry creates dust somewhere in its operations. Whether it is visible or of a microscopic size not apparent to the naked eye, trouble is in the making if this irritant is not controlled. AAF engineers will be glad to help you analyze your dust problems. For complete information, see you local AAF representative or write direct to:

**Airmat is the trade-mark (Reg. U.S. Pat. Off.) of the American Air Filter Company, Inc., for various air filters, dust collectors and filtering media.*

AAF **American Air Filter**
COMPANY, INC.

304 Central Ave., Louisville 8, Ky. • In Canada: Darling Bros., Ltd., Montreal, P. Q.



DARY
Ring Travelers

The RIGHT Travelers!

Each Dary Traveler is a special-purpose device — designed and processed to do a particular job best. It can't help being good, because it's individually superior. For fastest and longest continuous operation, on any spinning or twisting job, choose the *right* travelers. Specify Dary Ring Travelers next time you order.

Get to know
Your Friendly DARY Representative

ready so equipped, top girts should be installed to reduce vibration and to strengthen the loom frame.

4. . . . Keep the loom in good condition

The duck loom must be in good mechanical condition. There should be no lost motion in any of the gears, shafts, or bearings. The beat-up is extremely hard, and the crank arms must be kept tight. The harness and pick should be properly timed.

The take-up and let-off motions should be in good condition, with no lost motion and no slippage. The let-back motion must be correctly set to prevent thick and thin places in the cloth.

5. . . . Use a long bobbin and a big warp beam

The shuttle should take a long bobbin, at least 8¾ in., and as large a yarn package as practicable. The largest warp beam that can be used on the loom should be installed. The shuttle will require a number of brushes of medium or heavy bristle to hold the filling correctly. The counts of filling, twist, speed of the loom, etc. are all factors to be considered when applying tension to the filling; and the size and number of the bristles will vary.

6. . . . Watch these points

The warp line should be as straight as possible when weaving duck. The take-up roll, the warp stop motion, and the whip roll are set in extreme low positions. As previously mentioned, the top and bottom lines of shed should have equal tension, and the cloth should have the same appearance on both the face and back.

Most duck warps are unsized, and close control of the humidity is an important factor. A good cleaning and lubrication program should be instituted because shedding is excessive and the moving parts of the loom will require frequent lubrication.

Gluconic Acid—Versatile Agent

(*Continued from page 151*)

sirable odors, it may often permit the elimination of certain operations, e g., afterwash or similar steps, and allow for more efficient and economical processing.

ACID STRENGTH. The intensity of acids is of considerable importance to the textile chemist. An index of acid strength is given by the pH values in the following table:

Acid	pH of 2.0% Solution
Acetic Acid*....	2.55
Gluconic Acid#.	2.40
Glycolic Acid#..	2.12
Lactic Acid#...	2.10
Formic Acid*...	1.98

*Volatile
#Non-Volatile

It will be noted that the acid intensity of gluconic acid is midway between acetic and glycolic acids—an indication of its mild acid nature.

Sequestering Action

An additional property of the gluconates important in textile applications is their sequestering action. Gluconic acid, like most hydroxy organic acids is capable of forming water-soluble complexes with metallic ions.

Normally, in the case of iron and aluminum, when pH of approximately 4 to 4.5 is reached, a precipitate of iron or aluminum hydroxide is formed. In the case of copper, a similar precipitation usually occurs at a slightly higher pH. However, gluconic acid, when added to solutions of these cations, prevented their precipitation as hydroxides at pH values well on the alkaline side.

With this test method of avoidance of precipitate of hydroxide, the following values were obtained per 100 parts of gluconic acid:

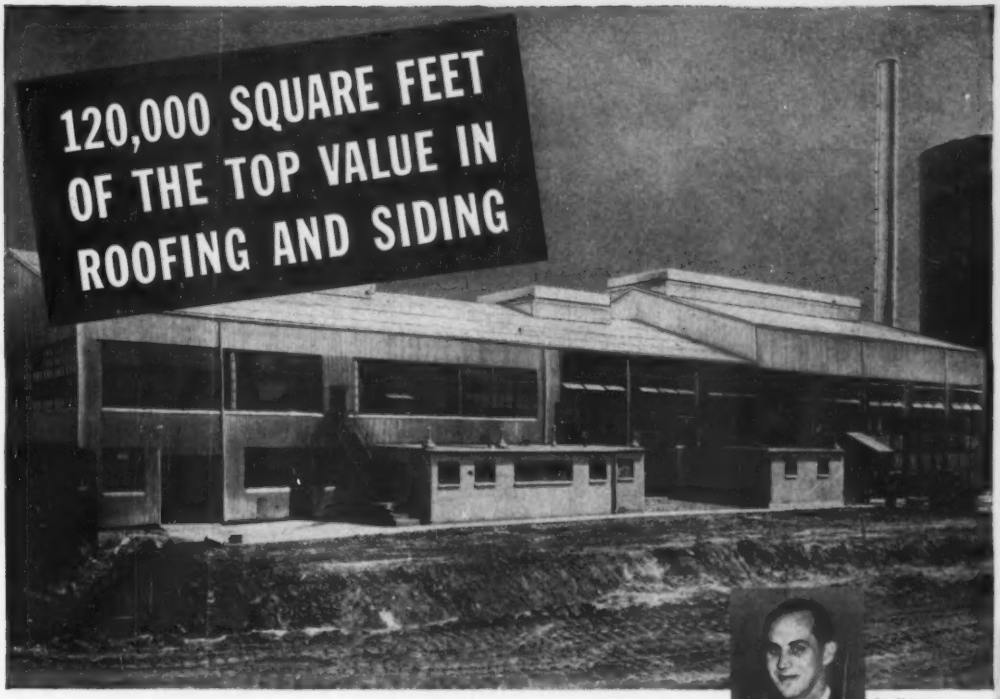
Cations	Amount sequestered
Iron	44 parts
Copper	26 parts
Aluminum	18 parts

In the case of magnesium and calcium, gluconic acid showed very little sequestering action in the pH range of 5 to 12. However, when solutions containing 1 to 3% caustic were tested, gluconic acid proved quite efficient in complexing these cations as well as iron.

Trace metals have been a long-standing problem to the textile chemist. Iron and copper in particular, as well as other heavy metals, may be introduced in a system through the process water used, pick-up from equipment and pipes, pick-up from the fabric itself, and others.

The lack of brilliance and luster of many dyestuffs may be attributed to these trace metals. Certain acid col-

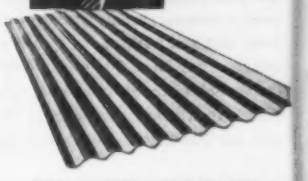
120,000 SQUARE FEET OF THE TOP VALUE IN ROOFING AND SIDING



Applicator:
M. W. Nabakowski, vice-president of the A. Nabakowski Co.

The Thatcher Glass Company plant at Lawrenceburg, Indiana, called for 120,000 sq. ft. of roofing and siding. The owners and their architects, Herman and Associates, Cincinnati, liked the idea of aluminum. They knew its lighter weight (56 lbs. per square) would save on framing. They knew this rustproof, corrosion-resistant metal would need no painting—practically eliminate maintenance. And aluminum's heat reflectivity would make the buildings cooler in summer, warmer in winter.

M. W. Nabakowski, Amherst, Ohio, roofing and siding applicator, has this to say: "Reynolds Industrial Corrugated is an ideal material because the finished job has eye-appeal, workmen like to handle it, and application costs are easily controlled." But the best testimonial will be written through the years, in superior performance and maintenance economy. It's the top value you want in your next construction. Call on Reynolds for literature, technical assistance and application details.



Specifications for Reynolds *Lifetime* Aluminum Industrial Corrugated:

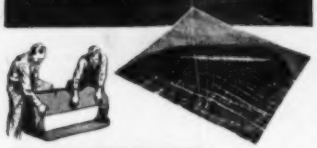
Thickness .032"
Corrugations 7/8" deep, 2-2/3" crown to crown
Uniform load support (roof) 80 p.s.f. on 4' purlin spacing
Uniform wind load capacity (siding) 20 p.s.f. on girt spacings up to 7'9"
Roofing width 35", coverage 32"
Siding width 33-3/4", coverage 32"
Lengths 5', 6', 7', 8', 9', 10', 11', 12'

Offices in principal cities. Check your classified phone book for our listing under "Building Materials," or write: Reynolds Metals Company, Building Products Division, 2005 South Ninth Street, Louisville 1, Ky.

Aluminum is required for planes and other military needs. Reynolds *Lifetime* Aluminum Industrial Corrugated is still produced, but the total supply is necessarily reduced. Rated orders receive priority handling.

REYNOLDS *Lifetime* ALUMINUM INDUSTRIAL CORRUGATED

What's your packaging problem?



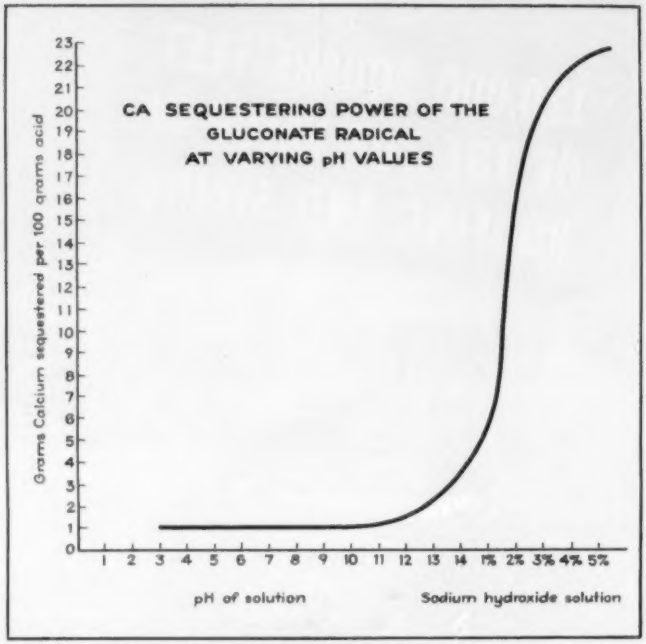
FIBREEN
ASSURES COMPLETE PROTECTION

You'll find FIBREEN the right answer for many protective packaging problems. FIBREEN saves time, labor and money . . . makes the lightest, most compact package . . . reduces shipping costs, conserves storage space, protects from dirt and moisture in transit and storage. For over 20 years FIBREEN has served the textile industries. Qualified consultants available to help you use FIBREEN to best advantage.

Write Dept. T-10
for samples and data

FIBREEN
WATERPROOF SISAL-REINFORCED PROTECTIVE PAPERS

THE SISALKRAFT CO.
205 West Wacker Drive, Chicago 6, Ill.
New York 17, N. Y. · San Francisco 3, Calif.
London, England — Sydney, Australia


CA SEQUESTERING POWER OF THE GLUCONATE RADICAL AT VARYING pH VALUES
Grams Calcium sequestered per 100 grams acid
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23
1 2 3 4 5 6 7 8 9 10 11 12 13 14 1% 2% 3% 4% 5%
pH of solution
Sodium hydroxide solution

SEQUESTERING ACTION of gluconic acid is quite efficient in solutions containing 1 to 3% caustic.

ors, azoics, chrome fast colors applied by after-chroming, and sulphur colors have all shown some sensitivity to trace metals, such as iron and copper. The result has been an adverse effect on the development of these dyes.

The ability of gluconic acid to complex these metallic contaminants may possibly allow the use of less dye in formulations with equivalent or increased brightness.

MERCERIZATION. Gluconic acid should also be of interest in other textile applications where high concentrations of caustic are encountered, as in mercerization. In this application,

(*Continued on page 338*)

Hard-Top Cement Floors

(*Continued from page 147*)

another 4-in. concrete slab, a 15-lb. water-proofed felt interlayer was laid over the initial surface. The job was completed by installation of the Kalman cement finish by a crew of trained operators.

In addition to the comfort experienced by operators working on this floor, an additional 6 in. of critical head room has been gained, as compared to the conventional wood floor construction. The floor is readily accepted by workers because of the class of finish achieved and the close-grained structure involved.

The characteristic freedom of the topping from "dusting" has been observed in this installation, a necessary prerequisite for textile mill operations. No damage or undue scoring has been observed. Maintenance time, which normally involved extensive waxing, seal coating and other treatment, has been reduced substantially.

The biggest expanse of this special flooring is in the Grace Bleachery finishing mill. The same physical characteristics observed at the Lancaster Mill hold true at the Grace operation. The Company feels that the satisfactory results have been attributable to a "good material properly put down."

Because the Kalman floor in the mill area of the bleachery has shown no wear, even under considerable truck traffic, and has required no special maintenance or protective treatment, the 120,000 sq. ft. of new warehousing being added at Grace will be topped by a Kalman floor finish for the sake of minimum maintenance.

At the Fort Mill plant of the Company, head room is again a problem; and it is expected that with the in-

Rayon Reports

Avisco Develops New and Better Way to Stabilize Rayon Fabrics

AVCOSET TREATMENT ELIMINATES PROGRESSIVE SHRINKAGE
FABRICS ARE NOT WEAKENED BY BLEACHING AGENTS

The Avcoset process, an important and new advance in stabilizing rayon fabrics, has been developed by Avisco. It has two principal advantages. These are: that fabrics treated with it do not shrink progressively each time they are washed and they are not weakened by bleaching agents since there is a complete lack of chlorine retention.

Tested for Two Years

More than two years evaluation by Avisco's Textile Research Department at Marcus Hook, Pa., substantiate these advantages. Treated and tested exhaustively were a variety of weaves, mostly challis, chambray, fuji and other shirting-weight fabrics. Most of them were spun viscose rayon, but they also included mixtures of spun and filament viscose rayon, and blends of viscose rayon with acetate rayon and nylon.

The tests included up to fifty laboratory washings, both according to the regular shirting formula and multiple washings at the boil. During the more than two years the tests were in progress members of the Textile Research Department staff also amassed considerable use data by wearing shirts stabilized with the Avcoset treatment.

Two commercial finishers have recently demonstrated that the Avcoset formula can be applied satisfactorily on a commercial scale. These two finishers are the Fontaine Converting Works, of Martinsville, Va., and the North Carolina Finishing Corp., of Salisbury, N. C.

Primarily for Shirting Weights

The Avcoset treatment, which uses a new alkali cellulose formula, is intended primarily for fabrics of shirting weight. While a slight loss of fabric strength is associated with the treatment, the many tests made so far indicate a loss of only 5 to 15 per cent. This compares favorably with the results achieved with other stabilizing processes.

Only a small amount of the chemicals used is consumed in controlling shrinkage within a two per cent tolerance. Normally the treatment adds but 0.5 to 1.0 per cent to the weight of the fabric.

No Special Equipment

Any well-equipped finishing plant already has on hand all the equipment needed to apply the Avcoset treatment, and American Viscose Corporation plans to make it available to the trade on a royalty-free basis. The cost of applying it is comparable to that of other stabilizing processes.

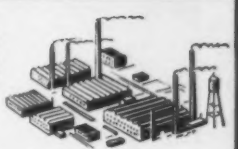
Fabrics to which the new Avcoset treatment is applied must be predominantly viscose rayon, since only viscose fibers are affected by the formula. This affinity of the Avcoset chemicals for the viscose fiber, however, does not preclude applying the treatment to fabrics containing percentages of nylon, acetate rayon, or other fibers. Such blends are effectively stabilized by the Avcoset process.

Inquiries about the Avcoset treatment are invited. Address: American Viscose Corporation, Converting Relations Department, 350 Fifth Avenue, New York 1, N. Y.

RAYON 20 YEARS AGO

NEW YORK, October, 1931 — Germany is now the leading exporter of rayon to the United States.

PARIS, October, 1931—Mlle. Suzy Vernon, a French actress, clothed in a rayon costume won the Grand Prix de l'Elegance given by The Society of French Arts and the National Society of Beaux Arts.



ROANOKE, VA., October, 1931 —The Viscose Co. has announced resumption of full time operations in its plant here.

MAKE USE OF *Avisco*® 4-PLY SERVICE

To encourage continued improvement in rayon fabrics, American Viscose Corporation conducts research and offers technical service in these fields:

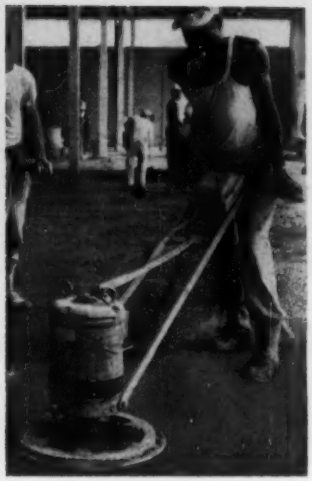
1 FIBER RESEARCH
2 FABRIC DESIGN
3 FABRIC PRODUCTION
4 FABRIC FINISHING

AMERICAN VISCOSE CORPORATION

America's largest producer of rayon

Sales Offices: 350 Fifth Avenue, New York 1, N. Y.; Charlotte, N. C.; Cleveland, Ohio; Philadelphia, Pa.; Providence, R. I.

There's safety in positive, non-slip driving, weld-like grip under vibration and stress and absence of protruding heads. These features protect your own employees, the product you make and the people who use it. Allen o Head screws and keys help keep both men and machines on the job.



***GRANOLITHIC TOPPING** is first hand trowelled (left) and then machine-compacted (right) to provide smooth, hard surface.*

stallation of Kalman floors a 12-ft. headroom will be achieved. Reduction of head room meant that loom wiring would have to be changed and that some of the facilities would have to be eliminated from overhead. Some 80,000 sq. ft. of flooring is being laid in this mill.

Spring Mills engineers, based on observation of Kalman methods, feel that experience is as important as materials in achieving good textile-mill surface. Basic to this is the correct proportion of water to cement and the control of the absorption. Too much water weakens the concrete. If the concrete is placed with the desired low-water ratio initially it will be too stiff a mixture for full workability and the floor will be porous and deficient in density and strength.

The Kalman method of controlled removal of free water permits surfacing operations to be started within 10 to 30 min. after screeding. Thus, surfacing is completed in advance of the critical stage in the setting of the cement, and all danger of loss of surface quality through disturbances of the crystallizing reaction is removed.

***WEAVE-ROOM FLOORS** of cement provide good wear and are not "hard on the feet" of workers, Springs engineers report.*

A variety of striped and plain effects is possible on the new ETR Machine.

Note elasticity, uniform stitch and smooth transfer of ETR true rib tops.

SAVE TIME... LABOR COSTS with the new S&W Economy True Rib

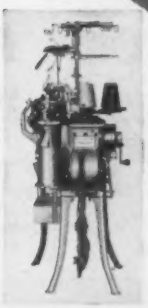
(ETR) MACHINE

Knits True Rib Top Half-Sox and Anklets in One Automatic Operation

The new S&W ETR Machine combines a new high in hosiery quality and sales appeal with a new low in production costs. Knitting a true rib top and plain knit leg *in one operation*, it achieves a smooth even transfer, uniform elasticity and good, clear ribs and, if desired, smart horizontal stripes in top or boot, or both.

Operating without a web takeup, the ETR Machine saves the time formerly required to separate hose at the knitting machine. The knitted hose is dropped and a new stocking is started automatically from bare needles. This allows one operator to handle many more than the usual number of machines.

The ETR Machine soon will be available in a complete range of sizes for hose for women, children and infants in the required gauges, and for men, too. Ask your S&W representative for full information.



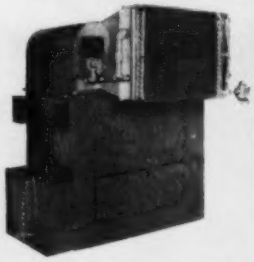
SCOTT & WILLIAMS, INC.

Established 1865

Sales Office: Empire State Building, New York 1, N. Y.
Divisional Offices: High Point, N. C., Reading, Pa., Chattanooga, Tenn.
MAIN OFFICE AND PLANTS: LACONIA, NEW HAMPSHIRE

AIR CONTROL

AIR·PERME·ATOR



HUMIDITY and HEATING

The ideal cold weather set-up is heating plus controlled humidity.

Air-Perme-Ator offers both in a unit which provides adequate heat, yet, *by even distribution of velvety-smooth humid air actually protects yarns from drying out and becoming brittle.* There is no direct hot blast of air on sensitive yarns at any time.

Recognized as the best of its kind, the "dry" humidification system assures uniform humidity without free moisture. Supplemented with heating coils, the unit thermostatically controls temperature.

No central system required. No costly installation. No expensive upkeep.

Up to 50% fuel savings.

Air washed and filtered.

Completely automatic.

Suspended platform installation.

Write for further details.

AIR-PERME-ATOR MFG. CO.
300 Preakness Ave. Paterson, N. J.

HEAVY MANUAL LABOR that required six men to unload and move incoming bales of wool has been eliminated with the installation of two fork trucks.

INCREASED USEFULNESS of existing storage space was made possible with the fork trucks, which permit tiering of the heavy bales.

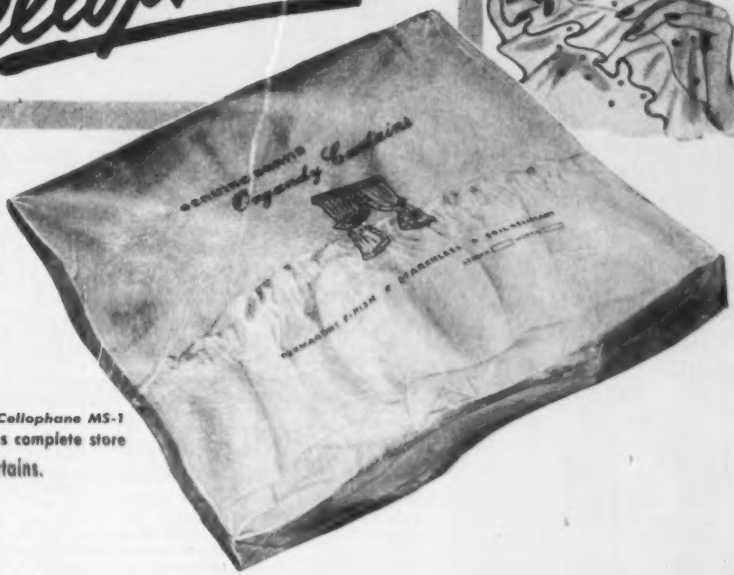
POWER TRUCKS Cut Warehouse Handling Time 75%

TWO FORK TRUCKS are saving a New England mill as much as 32 man-hours per day in the unloading, moving, and storing of bales of wool. Formerly, manually operated hand trucks had been used to handle its weekly average of 400,000 lb. of wool. Use of these hand trucks was, of course, limited to the transfer of the material; with the lift trucks it is not only moved but is stacked to multiply storage area.

The incoming material consists of bales of South American wool weighing about 1,050 lb. each and bags of noils weighing about 150 lb. each. These are brought by highway carriers that are unloaded by the two 1,500-lb. fork trucks. The material is carried about 350 ft. to the storage area, where it is tiered two high.

Prior to the installation of these powered trucks, made by the Baker-Raulang Co., Cleveland, Ohio, eight men were employed to move the wool whereas now only two men are needed. Although the bags of noils were stacked with the aid of a hand stacker, the heavy weight of the bales precluded tiering by this method. In addition, these two fork trucks—which operate 90 to 95% of the time during an 8-hr. day and five days a week—deliver the bales from the storage area to the elevators that take them to the second-floor sorting room.

STAY CRISP
...keep clean!
thanks to Cellophane!



Overwrap of Sylvania Cellophane MS-1 in the 450 gauge provides complete store protection for organdy curtains.

5 important properties that mean successful textile packaging:

★ *Dust protection* ★ *Transparency*
★ *Durability* ★ *Low cost*
★ Excellent printing surface

SYLVANIA® CELLOPHANE

Sylvania is always ready to help you make the most of your cellophane supply. Discuss this problem with your Sylvania representative or write us concerning your application. Address: Market Development, Dept. TW-10

SYLVANIA DIVISION AMERICAN VISCOSE CORPORATION
Manufacturers of cellophane and other cellulose products since 1929
General Sales Office: 1617 Pennsylvania Blvd., Philadelphia 3, Pa.

Stehedco and Southern

World Famous "Quality" SOUTHERN SHUTTLES possess Eye, Tip and Grip Features which give them longer, more productive shuttle life.

News OF THE MONTH

Cotton-Properties Project. So that a mill man can eventually specify to the breeder what qualities he wants in the cotton he buys, a Textile Research Institute, Princeton, N. J., project to work out new methods for the measurement of cotton properties has been undertaken at the Dan River Mills, Danville, Va., pilot plant. If successful, cotton buying on the basis of area of the country, or variety, may eventually be superseded. The project, slated to take five years, will be under the guidance of the cotton subcommittee of TRI, in cooperation with Dan River, on a semi-commercial scale under strictly controlled conditions.

Isotopes for Wool Study. Radioactive isotopes are giving British scientists new leads on hitherto unknown aspects of the structure of keratin, the combination of elements forming the wool fiber. Also being studied in carefully controlled isotope-using experiments by the Wool Industries Research Assn., Torridon, Leeds, England, are (1) the physical chemistry involved in the dyeing processes and (2) the wool fiber's baffling ability to absorb other chemical substances into its inner structure. Manufacturers who thought they saw in radioactive tracers a means of commercially overcoming the problem of static electricity have been disappointed so far, however. Torridon scientists warn that the use of radioactive substances in textiles that will later be handled by many individuals might be perilous. Also the risk of contaminating processing machinery would require careful precautions to safeguard operators' health, it was pointed out.

Better Rayon-Fabric Stabilization. Progressive shrinkage and the retention of chlorine under normal laundry chlorine bleaches have been eliminated in a new "Avcoset" process for predominantly viscose-fiber fabrics announced at the end of September by

Textile Calendar

AATT, meeting, Builders Club, New York, Oct. 3, 1951.

Carded Yarn Assn., annual meeting, Carolina Hotel, Pinehurst, N. C., Oct. 4, 1951.

39th Annual Safety Congress and Exposition; Stevens, Palmer House, Congress, and Morrison Hotels; Chicago, Ill.; Oct. 8 to 12, 1951.

Textile Quality Control Assn., fall meeting, School of Textiles, Clemson College, Clemson, S. C., Oct. 12, 1951.

Georgia TQE, fall meeting, A French School of Textiles, Georgia Tech, Atlanta, Ga., Oct. 13, 1951.

STA, Eastern Carolina Div., Erwin Mills, Durham, N. C., Oct. 13, 1951.

D-13, ASTM, fall meeting, Park Sheraton Hotel, New York, Oct. 15 to 17, 1951.

NAM, Institute on Industrial Relations, Lake Placid Club, Essex County, New York, Oct. 15 to 19, 1951.

AATCC, national convention and Textile Exposition, Statler Hotel, New York, Oct. 17 to 19, 1951.

North Carolina Cotton Mfrs. Assn., annual meeting, Carolina Hotel, Pinehurst, N. C., Oct. 18 and 19, 1951.

School of Textiles, annual conclave, N. C. State College, Raleigh, N. C., Oct. 19 and 20, 1951.

Georgia Textile Education Foundation, 10th annual meeting, Atlanta, Ga., Oct. 20, 1951.

Packaging Institute, annual forum, Hotel Commodore, New York, Oct. 22 to 24, 1951.

AATCC, Hudson-Mohawk Sect., Hotel Utica, Utica, N. Y., Oct. 26, 1951.

AATCC, Northern N. E. Sect., Lowell Textile Institute, Lowell, Mass., Oct. 26, 1951.

AATCC, Phila. Sect., Kugler's Restaurant, Philadelphia, Pa., Oct. 26, 1951.

AATCC, R. I. Sect., Providence Engineering Society, Providence, R. I., Oct. 26, 1951.

Alabama TQE, fall meeting, slashing and weaving, Alabama Polytechnic Institute, Auburn, Ala., Nov. 3, 1951.

STA, South Carolina Div., School of Textiles, Clemson, S. C., Nov. 3, 1951.

AATT, meeting, Builders Club, New York, Nov. 7, 1951.

Textile Research Institute, annual meeting, Hotel Statler, New York, Nov. 8 and 9, 1951.

AATCC, R. I. Sect., Johnson's Restaurant, Providence, R. I., Nov. 16, 1951.

AATCC, Northern N. E. Sect., annual meeting, Boston, Mass., Nov. 30, 1951.

ASME, annual meeting, opening and picking, Chalfonte-Haddon Hall, Atlantic City, N. J., Nov. 30, 1951.

AATCC, South Central Sect., Hotel Patten, Chattanooga, Tenn., Dec. 1, 1951.

AATT, meeting, Builders Club, New York, Dec. 5, 1951.

AATCC, Hudson-Mohawk Sect., Jack's Restaurant, Albany, N. Y., Dec. 7, 1951.

AATCC, Phila. Sect., Kugler's Restaurant, Philadelphia, Pa., Dec. 7, 1951.

AATCC, Southeastern Sect., La Grange, Ga., Dec. 8, 1951.

1952

AATCC, New York Sect., Hotel New Yorker, New York, Jan. 11, 1952.

Plant Maintenance Show, Convention Hall, Philadelphia, Pa., Jan. 14 and 17, 1952.

AATCC, Phila. Sect., Kugeer's Restaurant, Philadelphia, Pa., Jan. 18, 1952.

AATCC, Hudson-Mohawk Sect., Jack's Restaurant, Albany, N. Y., Feb. 1, 1952.

AATCC, New York Sect., Hotel McAlpin, New York, Feb. 29, 1952.

AATCC, Hudson-Mohawk Sect., Jack's Restaurant, Albany, N. Y., March 21, 1952.

Fiber Society, spring meeting, Clemson House, Clemson, S. C., April 16 and 17, 1952.

Cotton Mfrs. Assn. of Georgia, convention, Boca Raton Hotel and Club, Boca Raton, Fla., April 16 to 18, 1952.

Knitting & Allied Crafts Exposition, sponsored by Natl. Knitted Outerwear Assn. and Underwear Institute, Grand Central Palace, New York, April 21 to 25, 1952.

Natl. Knitted Outerwear Assn., annual convention, Waldorf-Astoria Hotel, New York, April 22 and 23, 1952.

(Continued next page)

Stehedco
Southern

Adding or removing heddles is simple — you merely twist the open section.

REVOLUTIONARY IN DESIGN...

STEHEDCO *DRAWTEX*

is the latest scientific development in modern drawing-in harness equipment

It's another in the long line of patented accomplishments pioneered and developed by the STEEL HEDDLE MANUFACTURING COMPANY.

Primarily designed for use with the Barber-Colman Drawing-In Machine, STEHEDCO DRAWTEX automatically prevents openings in the warp. It eliminates the necessity for the weaver or fixer adjusting the heddles at the supporting hooks.

You can get STEHEDCO DRAWTEX frames in single and double bar construction. It gives you a continuous slide for the heddles —without interruption of any kind. The conventional supporting hook for the heddle rod is completely eliminated and special rod hook allows the heddle to slide the full length of the frame.

With STEHEDCO DRAWTEX all heddles are free to float and find their proper position as they spread over the width of the cloth being woven.

Heddle rods are much wider, giving much more strength to the frame. They eliminate sagging in harness. Frame ends are completely flush to give maximum frame length use in any loom.

Consult our staff of Field Engineers for full information on this revolutionary development in modern drawing-in harness equipment.

Products That "Weave The World's Needs"

STEHEDCO DRAWTEX heddles are made of selected tempered steel to give extreme flexibility with maximum wearing qualities.

STEEL HEDDLE MFG. CO.
2100 W. ALLEGHENY AVENUE PHILADELPHIA 32, PA.
Other Offices and Plants:
Greenville, S.C. • Atlanta, Ga. • Greensboro, N.C. • Providence, R.I.

SOUTHERN SHUTTLES Paris Plant... Greenville, S.C.
A Division of STEEL HEDDLE MFG. CO.

STEEL HEDDLE COMPANY OF CANADA LIMITED
310 St. Hubert Street Granby, Quebec, Canada

NEW

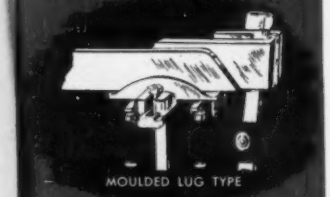
SCHIEREN CHECK STRAPS

outlast ordinary checks 3 to 1

New, patented Duxbak check straps have four advantages:
1. Stay adjusted longer.
2. Save wear on picker sticks.
3. Last longer — some are still in good operating condition after two years on Model X Looms.
4. Lowest check strap cost per lb. or yd. of loom production.

Made in two styles, moulded lug and endless type, these checks float with the motion of the picker stick. No other straps require so little attention.

ENDLESS TYPE



MOULDED LUG TYPE

OTHER SCHIEREN PRODUCTS for textile mills include the new Rayon-Core® Flat Leather Belting, which combines the pulley gripping ability of first quality leather with a stretch-resisting core that maintains initial tension. This belt runs straighter. It does an outstanding job on Winders, Strippers, Eccentrics and Knitting Machines. Schieren also supplies all types of straps, pickers, aprons, disks, etc. *Write for complete information or price quotations on any of the above products.*

CHAS. A. SCHIEREN COMPANY

Tanners and Manufacturers Since 1868

NEWS *of the Month*

(Continued)

FESTIVAL-OF-BRITAIN textile exhibition held at Blackburn, England, in August was attended by Sir Raymond Streat (center), president of the British Cotton Board, and other textile men in the area at the time. The "Britoba" automatic filling winder shown at the left is the same as the Foster-Muschamp "Autofil" that is used in the United States.

American Viscose Corp., Marcus Hook, Pa. Based on a cellulose-ether formula, the new process is cited as an important step toward rayon-fabric stabilization.

The new process is intended primarily for fabrics of shirting weights. There is some slight loss of fabric strength associated with the treatment. In tests made so far, this strength loss has been between 5 and 15% and thus compares favorably with results achieved with other stabilizing treatment. Only 0.5 to 1.0% is normally added to the weight of the fabric, and only small amounts of the component chemicals are consumed in controlling shrinkage within a 2% tolerance. The cost of the treatment is said to be comparable to that of other stabilizing processes. The affinity of the "Avcoset" chemicals for viscose fiber does not preclude applying the treatment to fabrics containing percentages of other fibers.

Combed-Yarn Strength Index. A strength index for combed yarns has recently been developed by the Cotton Branch, Production and Marketing Administration, U. S. Dept. of Agriculture. The index has been used for the first time this fall to provide a means for comparing combed-yarn strengths (obtained in the testing of a specific sample) with the general average for carded cottons of the same staple length. The new index thus supplements the carded-yarn strength index already in use. Average long-draft combed-yarn strength standards usable as a basis for calculating combed-yarn-strength index numbers for typical staple lengths and yarn numbers have been set up for combed 22s, 50s, and 80s yarns in staple lengths running from 1 1/32 in. to 1 9/16 in.

Textile Calendar

(Continued)

Natl. Assn. of Hosiery Mfrs., annual convention and conference, Claridge Hotel, Atlantic City, N. J., April 28 and 29, 1952.

4th International Lighting Exposition and Conference, Cleveland Auditorium, Cleveland, Ohio, May 6 to 9, 1952.

ACMI, annual convention, Haddon Hall, Atlantic City, N. J., May 15 to 17, 1952.

Carolina Yarn Assn., annual outing, Carolina Hotel, Pinehurst, N. C., May 16 to 17, 1952.

STA, annual convention, Ocean Forest Hotel, Myrtle Beach, S. C., June 12 to 14, 1952.

ASTM, annual meeting, Hotel Statler, New York, June 23 to 27, 1952.

17th Southern Textile Exposition, Textile Hall, Greenville, S. C., Oct. 6 to 11, 1952.

1953

Knitting Arts Exhibition, Atlantic City Auditorium, Atlantic City, N. J., April 27 to May 1, 1953.

1954

American Textile Machinery Exhibition, sponsored by National Association of Textile Machinery Manufacturers, Atlantic City Auditorium, Atlantic City, N. J., April 26 to May 1, 1954.

Woolen-Mill Advice. If the woolen and worsted mills of the country move intelligently, they have a great opportunity to take the lead in the development of long-staple man-made fibers and blends, Herbert L. Werner of Werner Textile Consultants, New York, said recently in an interview. First, he said, wool processors must pool the experience they already possess in long wool fibers with that of the technicians in the synthetic-fiber field. Second, wool people should sponsor more research and more pilot plants not only for wool, but also for blends and for synthetic fibers. Third, wool manufacturers should include in renovation-program plans the use of all possible all-purpose machines so that wool-using mills will be prepared not only for future technical developments but also for any national emergency. Fourth, woolen and worsted mills should prepare themselves for more scientific management; for, Mr.

—it's "PLAY" and "GIVE" that win!

Same thing in yarn production! A flying traveler has to be FREE to compensate for yarn variations, to hold without breakage! Only the HERR Conical Ring gets this result.

HERR "Conical" "FREE HEELING" RINGS

develop the PLAY that reduces yarn breakage

Only the HERR Ring has the conical shape that forces the speeding traveler to ride the top and side, and NOT the bottom of the ring. Note how the heel is left free to GIVE AND TAKE with the yarn. This reduces yarn breakage, gives you smoother yarn, uniform bobbin density, cuts waste—in short, speeds production at less cost.

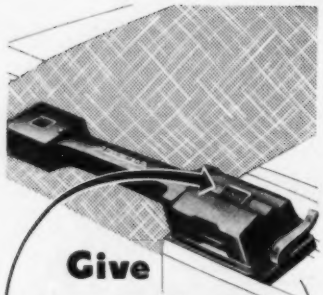
Remember too in the Herr Conical Ring, highly efficient OIL CONTROL saves oil, lengthens traveler life, produces cleaner yarn, stops re-wicking. Today it's MORE production that counts. Send for a HERR expert and let him help you GET IT.

Only HERR gives you the CONICAL RING

HERR Manufacturing Co.

INCORPORATED

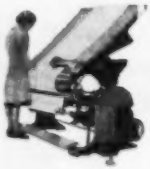
318-320 FRANKLIN ST. BUFFALO 2, N. Y.



Give your customers what they pay for

Kill short measure for good! Convince your customers with *accurate* clearly-printed records – it's so easy with "TRUMETER." At any point on a run, the touch of a lever will deliver a ticket or mill tag carrying an exact record of production. It's a sure way to cut complaints – and slash waste, too. That's why you can't afford to be without "TRUMETER" – for PROFIT'S sake!

"TRUMETER" can be fixed to most Inspection, Plaiting, Winding, Rolling and Doubling machines. Models are available for all types and widths of material – fine nylon, woolens, worsteds – even carpets, plastics, etc. It adds one way – subtracts the other, and delivers its printed ticket with one depression of a lever. "TRUMETER" is always accurate – always reliable. There's one for *your* need. Write now for particulars of complete line.



TRUMETER

MECHANICAL COUNTERS *for most industrial needs*

- MEASURING • REVOLUTION
- PRE-DETERMINED • STROKE

Write for details of full line to:

TRUMETER COMPANY
1265 Broadway, New York City, N. Y.

NEWS *of the Month*

(Continued)

Werner concluded, scientifically produced fibers cannot be used without modern planning and control methods.

RAYMOND W. JACOBY—with Ciba Co., Inc., New York and Providence, R. I., since 1937 as technician, research director, branch manager, and manager—will be presented the 1951 Olney Medal at the AATCC annual convention in New York this month. In the course of his 41-year career he has been granted five U. S. patents in the field of textile dyeing and processing.

Mobilization News Items

Rapid-Amortization Moratorium. A 60-day moratorium on the granting of "Certificates of Necessity" to industry, good for rapid tax amortization of new construction, was imposed on the national economy in the middle of August. The breathing space is being used by the Defense Production Administration to study revised procedures and to fix more definite percentage standards. DPA may establish percentage-certification patterns for individual industries. Within particular industries there may be individual adjustments in percentages allowed, depending on size of the enterprise, extent of integration, amount of competition, advanced technology, geographical location, and the relative expansion believed needed over the next five years.

Pricing Controls Postponed. The mandatory aspects of several Office of Price Stabilization manufacturing regulations have been postponed indefinitely. Silk and synthetic-fiber manufacturers have a choice of continuing pricing under the General Ceiling Price Regulation instead of subjecting themselves to CPR-22 rollbacks. Manufacturers of cotton goods covered by CPR-37 have the option of continuing to price under GCPR also. Wool-yarn and fabric manufacturers also keep their option of pricing under GCPR or CPR-18 or CPR-18, Revision 1.

CMP-Compliance Campaign. A nationwide CMP-compliance campaign by organized "flying squads" of enforcement officers to gather evidence of willful violations "for immediate and vigorous prosecution" has been set in motion by the National Production Authority. Since summer, NPA investigators have been auditing the records of industrial consumers of steel, copper, and aluminum to check compliance of CMP regulations. Violations disclosed so far include (1) failure to cancel or adjust outstanding orders that exceed limitations on the use of materials set by authorized production schedules, (2) placement of duplicate orders with different suppliers, and (3) placement of orders for delivery in a single month for more than 35% of the total quarterly allotment.

Answers on CMP Construction. A 4 page set of new NPA regulations applying the Controlled Materials Plan to construction, effective the first of this month, has been released by the National Production Authority. The questions and answers explain some of the specific applications of the new regulations. These applications include (1) the amounts of controlled materials that a builder may use without a specific permission from NPA and (2) how the rules apply to the building of new buildings of various types. Dept. of Commerce field offices have a supply of these pamphlets available for interested mills.

CMP-Inquiries Procedure. Manufacturers whose quarterly requirements for the following materials are less than the amounts given in parentheses have been requested by NPA to refer all queries concerning their applications to their own Dept. of Commerce field office rather than to NPA in Washington. Those whose requirements are more than the amount given below are filed with NPA in Wash-

(Continued on page 336)

WILDMAN 30" INTERLOCK MACHINE

The Answer IS "YES"

TO THESE IMPORTANT PRODUCTION QUESTIONS

Q Is the Wildman Interlock Machine adaptable to sportswear, underwear, dress fabrics and outerwear production?

YES

Q Is this machine's special size frame built to handle exceptionally wide fabric?

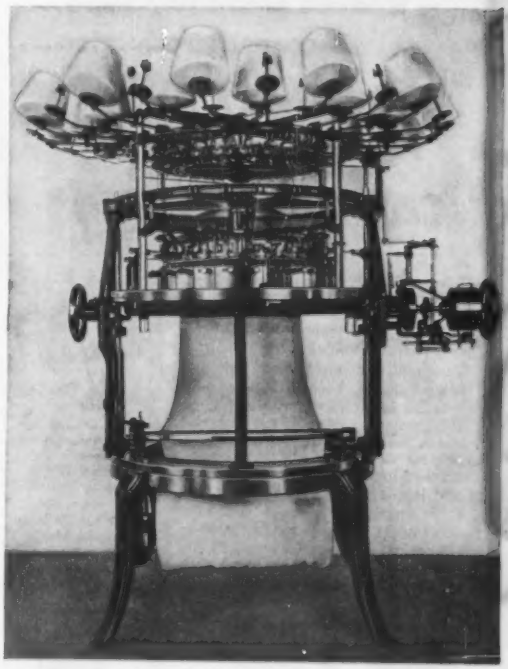
YES

Q Is the machine made in the popular sizes 26" and 30"?

YES

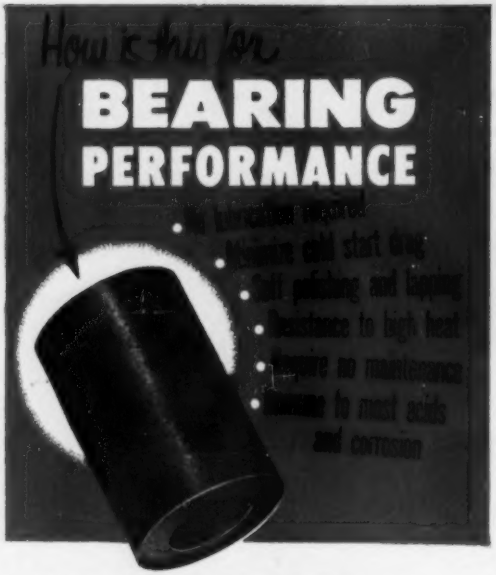
Q Is it furnished in all cuts up to 24 needles per inch?

YES



WILDMAN MFG. CO., NORRISTOWN, PA.

 For more information, write direct or use Reader Service post card.



Cut maintenance costs...
Reduce shutdown time...
Increase production...

MORGANITE
SELF-LUBRICATING
CARBON BEARINGS

These durable bearings require no lubrication — a vital consideration in inaccessible locations in machinery and sealed mechanisms. MORGANITE carbon graphite Bearings are unaffected by high temperatures because their self-lubricating action is derived from the inherent nature of the material itself, and is not an impregnation. Expensive finishes are unnecessary since Morganite is self polishing and lapping with use. The fact that it is immune to most corrosive acids and chemicals generally, is an advantage appreciated by many design engineers and maintenance superintendents.

Call or write for recommendations on specific problems, or request illustrated literature. See our bulletin insert published in Sweets Product Design File for further details.

See our CATALOG in SWEET'S FILE

Morganite INCORPORATED
LONG ISLAND CITY 1, NEW YORK

Manufacturers of CARBON SPECIALTIES for MOTOR and GENERATOR BRUSHES and CARBON PARTS

300 For more information, write direct or use Reader Service post card.

NEWS ABOUT Suppliers

Equipment Suppliers

Atlantic Steel Co., Atlanta, Ga., has about completed excavations in the first phase of its multi-million-dollar expansion program. The first new unit to be built, expected to be in operation by February, will be a 60-ton electric furnace with an annual capacity of 100,000 tons of steel.

Cook-P & N Machine Co., Inc., Boston, Mass., has appointed T. W. Kitchen, formerly with Rodney Hunt Machine Co., its representative in the Southern states.

Robert Gair Co., Inc., New York, has named Beaven W. Mills sales manager for "Gairvure" cartons. For the past four years, Mr. Mills had been art director of the company.

Glenwood Machinery Associates, Inc., East Orange, N. J., has been formed to manufacture and develop special textile machinery. Charles F. Jones, Jr., is president, Helmuth C. Sonntag is vice president, and George Westwater is secretary-treasurer. All three men were formerly with Kearny Mfg. Co., Paterson, N. J.

Holdsworth Gill Screw Co., Pawtucket, R. I., has moved its parts-service offices from Eudora St. in Providence to a new and larger building at 55 Sabin St., Pawtucket.

Rodney Hunt Machine Co., Orange, Mass., has moved its Southern regional office from Greenville, S. C., to Charlotte, N. C. A. P. Hyde, Rodney Hunt sales engineer, is in charge.

ROSS MEKELL, purchasing agent and secretary of Cameron Machine Co., Brooklyn, N. Y., has been elected a director of the cutting-machinery firm.

Hyatt Bearings Div., General Motors Corp., Harrison, N. J., recently appointed Ewalt Maurushat sales engineer for the New England district, with offices in Worcester, Mass. Mr. Maurushat replaces Frank U. Naughton, Jr., former New England representative, who has become manager of the Eastern sales division at Harrison.

Industrial Tape Corp., New Brunswick, N. J., has elected Stephen J. Geoghegan vice

LESTER B. GORDON (left) has been appointed vice president of Solvay Sales Div., Allied Chemical & Dye Corp., New York. He was formerly director of sales. DENMAN PENISTON (center) succeeds him in the sales-director post. Mr. Peniston had been assistant director of sales. JOHN ELLEMAN (right), former sales manager of the calcium-chloride department, has stepped into Mr. Peniston's former position.

USTER Solves Another Difficult Warp Tying Problem

The Uster Warp Tying Machine successfully handles fibres which have heretofore been considered beyond the range of portable tying machines. This, combined with its ability to save on loom down time, on labor, and in producing better work, makes the Uster Warp Tying Machine the best machine for any mill.

how Ix *eliminated an expensive bottle-neck*

Operator above working in fairly close quarters. The Uster can be set considerably closer than shown here, if necessary.

Close-up of Uster beginning a non-stop tying operation of the entire warp.

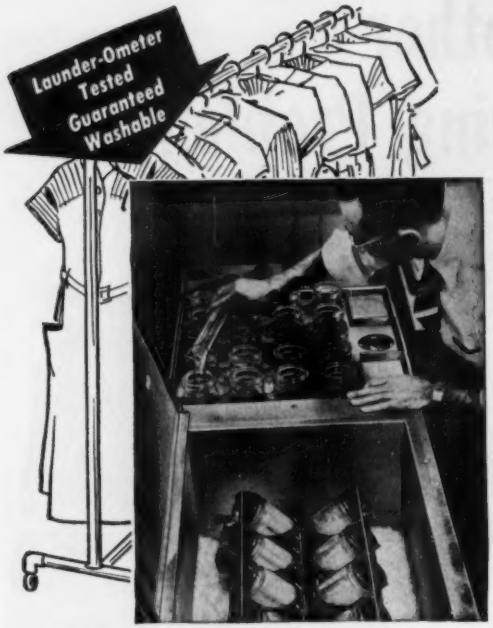
"We weave a great variety of materials—acetates, dull and bright Rayon, fine denier Nylon, high twist Crepe, and other fibres in our several mills," states Frank Ix, Jr. of Frank Ix & Sons Virginia Corporation. "We had never before been able to tie the high twist Crepe at the loom and have had difficulty with fine denier Nylon until we installed a Uster Warp Tying Machine. This machine efficiently ties all of our warps and can be changed to accommodate any material in a few seconds."

- **Ties the entire warp at one "bite"**
- **Precision mechanism of unmatched speed**
- **Compact—Convenient—Versatile**

In Canada: Hugh Williams & Co., 47 Colborne Street, Toronto, Ontario

USTER CORPORATION • 2516 Wilkinson Blvd., Charlotte, N. C.

Sales Offices: Boston—Philadelphia—Atlanta



The test behind the . . .

Guarantee

Before you can guarantee a product, you have to know how it will react to conditions it is expected to meet during its service life. Moreover, when you want this information, you want it fast!

When it comes to washable fabrics (or any other washable product) the Launder-Ometer is the machine that can give you the facts—in a fraction of the time normally required. Accepted as the standard laboratory washing machine of the American Association of Textile Chemists and Colorists, the Launder-Ometer can duplicate the effects of as many as 5 commercial launderings in one forty-five minute test. The data thus provided includes loss of tensile strength, color fastness, resistance to shrinkage, bleeding, washing and mechanical action, and other equally important information.

The Launder-Ometer is also in widespread use for the laboratory dyeing of leathers and textiles and for the testing of dry-cleaning oils and solvents and the efficiency of detergents and soaps. As many as 20 samples can be conducted simultaneously and conditions used for any given test can be reproduced at any time.

Operation of the Launder-Ometer is simple. It is a carefully built machine, soundly constructed, and economical in maintenance and operating costs. Available in 3 sizes with capacities of 20 one pint jars, 20 one quart jars, or 6 two quart jars plus any combination of 10 one pint jars or 10 one quart jars. All models are electrically driven, ¼ HP to ½ HP.

New Inconel jars designed in accordance with A.A.T.C.C. specifications for the new Accelerated Wash Fastness Test No. 3A are now available from Atlas.

ATLAS ELECTRIC DEVICES COMPANY

361 West Superior St., Chicago 10, Ill.

Manufacturers of accelerated testing devices for more than a quarter of a century

WEATHER-OMETERS • FADE-OMETERS • LAUNDER-OMETERS

News About SUPPLIERS (Continued)

JOHN ZELEK (left) has been made vice president in charge of research and development at Textile Colors Div., Interchemical Corp., Hawthorne, N. J. ARTHUR BOOTH (center) is now vice president in charge of production at Interchemical, while FRED BAUMANN (right) has been named vice president in charge of trade relations. Francis H. Bebee, in the division since last December, has been named administrative assistant to the divisional president, Norman S. Cassel.

president in charge of materials control. He was director of the materials-control division of the firm prior to his appointment as vice president.

Kuljian Corp., Philadelphia, Pa., recently signed an agreement with *Sociedad Nacional Industrias Applicaciones Celulosa Española* (SNIACE) that provides for the adoption of the Kuljian process of continuous rayon spinning and the manufacture of Kuljian machines for installation in the SNIACE plant at Torrelavega, Spain.

Minneapolis-Honeywell Regulator Co., Brown Instruments Div., Philadelphia, Pa., has appointed John D. MacNamara its textile-industry sales manager. He will move his headquarters from Boston, Mass., to the head office in Philadelphia. An additional 33 new sales engineers have been added to the over-all divisional staff.

Mona Industries, Inc., Paterson, N. J., has been formed by W. O. Slimbach, Robert Sommer, and Dr. Karl Hayman, all formerly with Kearny Mfg. Co. of Paterson. The new firm, to specialize in stainless-steel yarn-conditioning machinery as well as a line of finishing and conditioning chemicals, has as its Canadian representative Messrs. Fawcett & Co., Toronto, Ont.

National Vulcanized Fibre Co., Wilmington, Del., has purchased the stock of Lestershire Spool & Mfg. Co., Johnson City, N. Y. National Vulcanized Fibre has been a source of specialized materials for the manufacture of Lestershire bobbins. Fiber Specialty Mfg. Co. is the other subsidiary of the parent firm.

Raymond Corporation, Greene, N. Y., is the new name of the 111-year-old LYON-Raymond Corp. Raymond Corp. was originally founded in 1840 as the Lyon Iron Works.

Reliance Electric & Engineering Co., Cleveland, Ohio, has added (1) four sales-application engineers, (2) a sales analyst, and (3) two field-service engineers to its district offices in six cities, as follows: (1) Ralph D. Abercrombie, Jr., to Buffalo, N. Y.; Rex T. Willard to Atlanta, Ga.; M. K. Sieber to New York; and Nicholas D. McKay to Detroit, Mich.; (2) John H. Stevens to Newark, N. J.; (3) Cecil D. Wright to Charlotte, N. C., and Charles F. Garnish to Detroit, Mich.

Joseph T. Ryerson & Son, Inc., Chicago, Ill., has named Paul L. Wright to the position of sales manager of the Buffalo, N. Y., plant. He was formerly office manager there.

Saco-Lowell Shops, Boston, Mass., has purchased a 230-acre tract at Arden, N. C., near Asheville, for $70,000 "for such time in the future as it may be advisable for the company to have another Southern plant." A 300,000-sq. ft. plant is now under construction in Saco, Me., and a 28,000-sq. ft. addition is now under construction at the Sanford, N. C., unit.

Scott & Williams, Inc., New York, has named Robert H. Lawson assistant vice president

FRIEND OF THE PLANT OWNER... WHO HAS A WET SURFACE MAINTENANCE PROBLEM

The Damp-Tex system of painting kills rust, rot, fungus and bacteria. Stops deterioration. Can be applied on any paintable surface, *wet* or dry, with equal ease and efficiency... changing dingy, rough light-blotter loteriors into glistening porcelain-like beauty. One coat covers. Resists acid, alkali, corrosive gases and oxidation. Dries overnight without flavor-tainting odor into waterproof film. Comes in white and colors.

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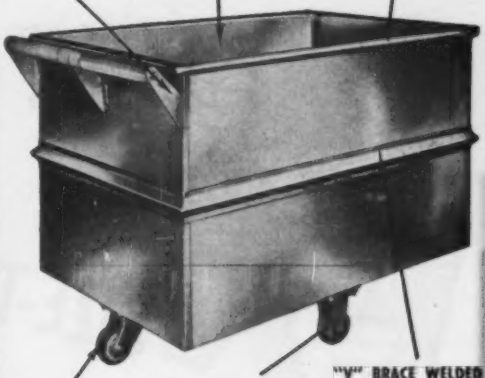
Canadian Industrial Distributor: G. H. Wood & Co., Ltd., Toronto

New Stainless Steel

WET GOODS TRUCK

- EASY TO CLEAN
- SNAG FREE
- RUGGEDLY BUILT


Stainless steel handles welded to body
Stainless steel body, cleans quickly
Rolled edges prevent snagging of fabrics
"V" BRACE WELDED TO BODY
Truck tilts on center casters for easy maneuvering
Heavy duty, aluminum, ball bearing casters

This is the wet goods truck dyers have always wanted . . . built to stand rough handling for years . . . easy to clean . . . snag free . . . a truck designed to cut your handling costs. Standard width 3 feet, depth 30". Standard lengths 3 ft., 4 ft., 5 ft., 6 ft. Also built in sizes to meet your requirements. Send for Bulletin 7032.

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Safe! *Exsize-T* is not a harsh chemical—but a harmless liquid enzyme concentrate. Easy to apply. Removes starch quickly... cheaply... completely. Write now for free booklet.

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News About SUPPLIERS (Continued)

in charge of research in recognition of his part in the development of new S & W machines over the past 11 years. Prior to his appointment, he was superintendent of research.

Sterling Electric Motors, Inc., Los Angeles, Calif., has let contracts for the construction of a new $1,000,000 plant on an 11-acre site in Van Wert, Ohio, designed for defense production.

Venango Engineering Co., Philadelphia, Pa., has appointed Matthews Equipment Co., Providence, R. I., its New England sales agency.

Chemical and Yarn Suppliers

American Cyanamid Co., New York, has elected E. D. Powers vice president in charge of production, succeeding H. P. Eastman, retired. A. J Campbell, general manager of the industrial-chemicals division, and Howard Huston, former assistant to the president, have been elected vice presidents. L. C. Duncan is now assistant to the president. Dr. A. J. Weith has been appointed product supervisor in the synthetic organic-chemicals department.

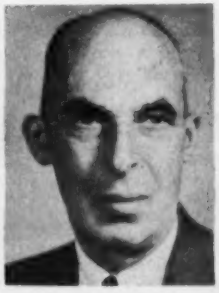
American Viscose Corp., New York, has made known the retirement of Frank H. Griffin, vice president and technical director of the company. Mr. Griffin devised one of the first practicable ways to increase the strength of rayon yarn by an improved stretch-spinning process developed at the Marcus Hook, Pa., plant.

Arnold, Hoffman & Co., Inc., Providence, R. I., recently held an "Open House" at its newly renovated office and laboratory building at 55 Canal St. The renovated structure has been made almost completely offices and laboratories.

Chemstrand Corp., Philadelphia, Pa., has appointed the following men to positions in the organization: Carl O. Hoyer, director of general-engineering department; Norman C. Stiles, purchasing agent; L. E. Stone, Jr., employment manager; Arvon L. Davies, assistant to the president; Dr. Frank J. Soday, director of research and development of synthetic fibers; R. W. Sudhoff, associate director of development; and Roy G. Hemminghaus, plant manager of nylon plant at Pensacola, Fla.

Columbia-Southern Chemical Corp., subsidiary of Pittsburgh Plate Glass Co., Pittsburgh, Pa., is the new corporate name of the former Southern Alkali Corp. The action involves a change in name only. Personnel, policies and customer relations will not be affected.

Courtaulds Ltd., London, England, has completed negotiations to re-establish itself in the U. S. with a new rayon-staple plant to be known as Courtaulds (Alabama), Inc., registered in the State of Dela-



WALTER M. RALPH (left), director of research and development for 22 years at National Aniline Div., Allied Chemical & Dye Corp., New York, has been made assistant to the president. Mr. Ralph's former duties have been assumed by DR. WESLEY MINNIS (right), for 20 years assistant plant manager in charge of research and development at the Buffalo, N. Y., plant.

For Perfect Spools at Higher Speeds-

SIPP-EASTWOOD WINDER-REDRAW

- **SELF-THREADING TENSION**
- **SELF-OPENING SPINDLELESS ATTACHMENT**
- **FULL SPOOL STOP MOTION**

Deliberately designed for perfect spools at higher speeds and greatest possible automatic operation. This brand new winder-redraw requires a minimum of attention during operation and is easy to clean and maintain.

Features:

1. **Washer type self-threading tension** fastened to traverse rail is easily adjustable and quickly cleaned. Eliminates all threading operations.
2. **Gate type tensions** available with self-threading Alsimag guides for nylon.
3. **Full spool stop motion** prevents overrun bobbins.
4. The drive and traverse mechanism is enclosed in one complete unit and is lubricated by a circulating oil bath.
5. Traverse adjustment is independent on each side of machine and can be adjusted from 2½" to 7" traverse without changing cam.
6. Speed changes are readily accomplished through the use of a handwheel.
7. Winds per stroke easily adjustable.
8. Single or double drive self-opening spindleless brackets are available.
9. Easily changed for "S" or "Z" twist by use of reversing switch.
10. Tachometer available for easy speed readings.

Self-Threading Tension

Full Spool Stop Motion

Gate Type Tension

Write for Descriptive Folder

SIPP-EASTWOOD CORPORATION

Producers of superior equipment for textile processing.

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Hayssen Automatic Wrapping Machines produce neat packages at low unit-cost. Printed designs are registered by the Hayssen Electric Eye, and uniformity in appearance is maintained. One machine wraps many package sizes, and handles wrapping material in economical rolls. Send today for descriptive literature.

HAYSSEN MFG COMPANY • SHEBOYGAN, WIS.

News About SUPPLIERS (Continued)

ware. The 550-acre site chosen for the new plant is at Huntsville, Ala., 20 miles north of Mobile. Permission to build has been received by Courtaulds from the National Production Authority. Cost of construction is expected now to be about $10,000,000 (£3,500,000). Production is expected to start some time in 1953. Initial output is estimated to be near 50,000,000 lb. of staple per year. About 600 persons will be employed.

Diamond Alkali Co., Cleveland, Ohio, is undertaking a two-year, multi-million-dollar program of plant expansion at its Painesville, Ohio, plant. The project will by the electrolytic process step up substantially the company output of caustic soda and chlorine.

E. I. du Pont de Nemours & Co., Inc., Wilmington, Del., has appointed Edward M. Epstein manager of a newly created quality-control section of the nylon division. Since last November, Mr. Epstein had been technical superintendent at the Old Hickory, Tenn., plant.

Seydel-Woolley & Co., Atlanta, Ga., has appointed V. R. "Bob" Mills, formerly of Dan River Mills, Danville, Va., its technical sales representative in the Georgia-Alabama territory. He succeeds E. A. Scott.

Union Carbide & Carbon Corp., New York, recently named Dr. James F. Eversole manager of research administration of the company. He will help co-ordinate the research activities of all of the company laboratories where basic research and development work is being done.

Virginia-Carolina Chemical Corp., Richmond, Va., has appointed John H. Karrh manager of the fiber division. Since 1949 he had been sales manager. Jesse F. Yeates, Jr. succeeds him in the latter position. Mr. Yeates had been in the sales department of the fiber division for a year.

Other Services

N. C. State College, School of Textiles, Raleigh, N. C., has appointed Dr. Herbert F. Schiefer, former chief textile physicist with the National Bureau of Standards, Washington, D. C., to the position of acting director of textile research for the academic year. The appointment has been made to spur the School of Textiles' research program with a view to speeding the development of specialized apparatus for textile-research purposes.

Philadelphia Textile Institute Foundation, Philadelphia, Pa., has named Ronald C. Forrest, director of the Carded Yarn Assn. and the Alabama Cotton Mfrs. Assn., to the position of executive director of the foundation.

J. E. Sirrine Co., Greenville, S. C., has made known the withdrawal from partnership of J. K. Adams. J. W. Cantrell and George Wrigley, Jr., have been made partners.

NEW BUTTERWORTH-PLANT EXPANSION at Bethayres, Pa., totaling 68,000 sq. ft. of floor space and costing $300,000, was recently occupied by H. W. Butterworth & Sons Co. The new building (foreground) houses the assembly floor, tenter-chain and pressed-roll departments, drafting room, and general offices.

The new plant complements the large new machine shop completed in 1947 and the former foundry that was converted for manufacturing operations last year.

UP TO 10 TIMES GREATER CAPACITY

—for your Water Softener with these Modern Zeolites!

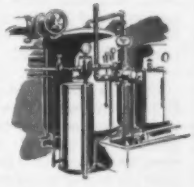
Know how to step up the capacity of your water softener? Permutit has made it easy ... by developing zeolites that give up to *10 times greater capacity*, up to 50% greater flow rate.

That's right ... no costly modernization is needed. Just replace your softener's present mineral with one of Permutit's new high-capacity zeolites ... that's all you do!

Change to Automatic Controls —and save money!

Why not convert your manually controlled softener to Permutit automatic controls? You will get a constant supply of clear, completely soft water ... and save costly man-hours of labor and maintenance.

Write for full information to The Permutit Company, Dept. TW10, 330 West 42nd Street, New York 18, N. Y., or to Permutit Company of Canada, Ltd., 6975 Jeanne Mance Street, Montreal, Canada.



Water Conditioning Headquarters for Over 38 Years

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Horse-collar for a dog?

It won't work ...

Why not get the right one for the job?

In buying textile chemicals, this makes sense too.

Processing is too complex to be adequately served by a conventional product. That's why modern dyers and chemists rely upon a chemical specialty developed by Dexter for their specific operations.

Dexter gives you the right product for the job.

For this reason, Dexter chemical specialties are always at work in America's leading mills.

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Welcome to the A.A.T.C.C. Convention. We invite you to view the famous Dexter Library of rare and great works on chemistry, dyeing and bleaching—at Dexter's Booth 79-8.

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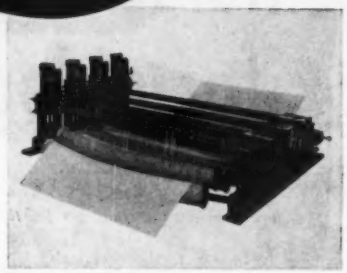
You can

CUT PRODUCTION COSTS AND IMPROVE QUALITY *with*

Mount Hope

ADJUSTABLE EXPANDERS



9-Bar Adjustable Expander; electrically controlled, motor driven for maximum spread and width control.

All over the world Mount Hope Expanding Devices handle all types of wrinkling, creasing and spreading applications in textile mills. 80% of the mills in the United States use them, and nearly all machinery builders incorporate them on their machines.

Have a Mount Hope Engineer analyze your cloth handling problems—no obligation.

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MOUNT HOPE MACHINERY COMPANY

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308 For more information, write direct or use Reader Service post card.

NEWS ABOUT Mills

Cotton Mills

Aberfoyle Mfg. Co. has begun construction of a new addition to its Bridgeton, N. J., plant. The building, which is to house a pilot plant for the production of fluorescent-dyed cotton yarn, will have approximately 10,000 sq. ft. of floor space.

Beaumont Mfg. Co., Spartanburg, S. C., is installing a complete central-refrigerated air-conditioning system in its carding and spinning rooms. The company is constructing an addition to house the Bahnson-system equipment. Another addition will add 10,000 sq. ft. for extension of the slashing and twister rooms. Ten additional spinning frames will be installed.

Bibb Mfg. Co., Macon, Ga., has purchased a 23-acre site with three warehouse buildings from Gulf Atlantic Warehouse Co. Purchase price was approximately $350,000. The buildings, which contain about 250,000 sq. ft. of floor space, will be used to store cotton.

Borden Mills, Inc., Kingsport, Tenn., is installing an automatic conveyor system to carry yarn from spinning to spooling. When the system is completed, both warp and filling yarn will be moved mechanically from spinning through to weaving.

Brown Mfg. Co., Concord, N. C., plans a new storage room, additional office space, lounges, and cotton-classing room. Heating and air-conditioning will be installed.

Canbri Mfg. Co. Ltd., Ajax, Ont., is erecting a large addition to its main plant for the spinning of combed cotton yarns for its own use. The company has placed an order for a 10,000-spindle cotton-spinning unit with Platt Bros. & Co. Ltd., Oldham, England. The addition to the main plant will be of brick and glass and will provide 60,000 sq. ft. of floor space. Plans are to have the building ready for operation early next year.

Columbus Textile Co., a new concern, has started construction of a new one-story plant on a 10-acre site provided by the city of Three Rivers, Que. The building will house spinning, weaving, and finishing machinery. Cost is estimated at $200,000.

Conway Textiles, Inc., will occupy a new plant at Conway, S. C., for the production of curtains. Harlee-Quattlebaum Construction Co., Florence, S. C., has been awarded a contract for construction of the plant, which involves an investment of $250,000, including machinery.

Hamilton Web Co., Hamilton, R. I. has been purchased by a New York group headed by Philip E. Kahn, Nathan Sheinman, and Martin Nelson. Plans call for construction of a new structure of about 75,000 sq. ft. to be added to present buildings containing 90,000 sq. ft.

Hickory Fabrics Co., Hickory, N. C., upholstery-material manufacturer, has completed an office building, 40x50 ft., and a new manufacturing building, 60x208 ft.

Hoffman Tape Mills, Cheltenham, Pa., plans early replacement of loss caused by a recent fire at the mill. Estimated damage was $50,000.

Meridian, Miss.—City officials plan a special election to approve a bond issue for construction of a mill to be owned by the city and occupied under lease by Textron, Inc., Providence, R. I., for the manufacture of cotton twills and other cotton fabrics. The entire project is reported to cost $6,500,000.

Morgan Cotton Mills, Inc., Laurel Hill, N. C., has begun construction of a 25,000-sq. ft. addition to its Springfield plant. Enlargement will be completed about the first of the year.

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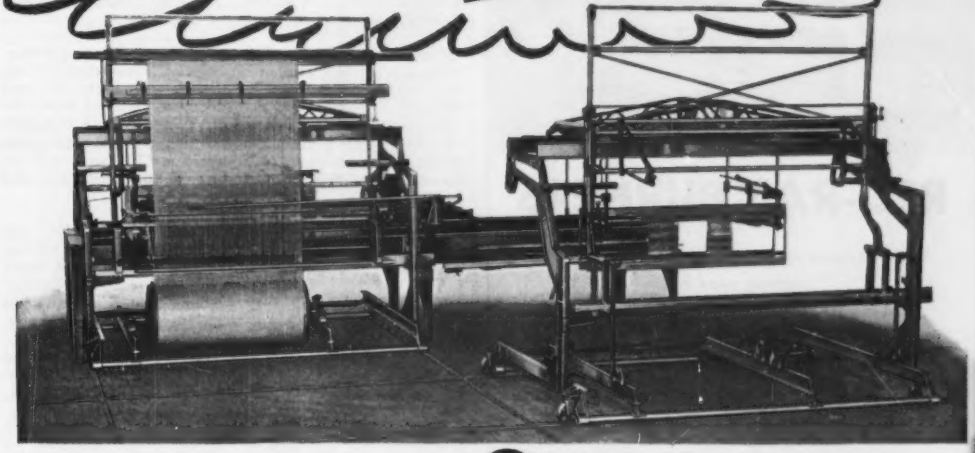
FASTER REPLACEMENT
STRAIGHTER WARPS
LOWER COSTS



BARBER-COLMAN MODEL G *Warp Drawing Machine*

The Model "G" Barber-Colman Warp Drawing Machine is designed to be used in a wide variety of weaving mills and is particularly valuable to manufacturers of dobby fabrics, shirtings, suitings, and dress goods. This machine is also extremely useful for mills weaving broadcloth, ginghams, fancy rayons and cotton specialties and sheeting. Mills that use up to 20 or 24 harness shafts in the construction of fabrics and 8 or less banks of warp stop motion, where quick change-over in style and pattern is necessary, will find this model the answer to their warp replacement problem.

Field reports show up to 3000 Ends per Hour
Draws warps from 10 to 300 ends per inch
Draws from flat sheet or 1 x 1 lease
Draws from single or double beam, or split sheet
Draws 1 x 1 lease in double beam or split sheet

Warp threads are drawn through drop wires, heddles and reed
IN ONE OPERATION
from any predetermined draft

HARNESS FRAME LENGTHS	
Size of Machine	Maximum Overall Length of Harness
48	54"
66	72"
86	92"

MODEL "G" MACHINE CAPACITIES
The Model "G" can be furnished in the following capacities at no difference in cost:
Reed, 20 Harness, 8 Banks of Drop Wires
Reed, 22 Harness, 6 Banks of Drop Wires
Reed, 24 Harness, 4 Banks of Drop Wires
DROP WIRE CAPACITY: 9/32" through 3/4" wide

WILL DRAW
- Cotton Yarns
- Filament Yarns
- Spun Yarns
- Woolens and Worsteds
- Monofilaments

AUTOMATIC SPOOLERS • SUPER-SPEED WARPERS • WARP TYING MACHINES • DRAWING-IN MACHINES

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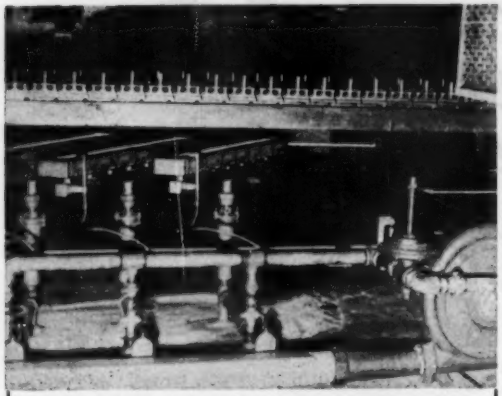

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→COMPRESSIVE SHRINKAGE←

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for use in shrinking fabrics to the *"Sanforized"* standard by the Compressive Shrinkage process, are daily meeting the most exacting requirements of finishers throughout the industry. From the lightest and finest fabric to the heaviest denim, there is a special Huyck blanket to meet your specific needs.

Huyck blankets retain high shrinkage and finish properties to the last.

PALMER BLANKETS—also available for your special requirements.

Write for information or see our representative

F. C. HUYCK & SONS

KENWOOD MILLS

Rensselaer, N. Y.

News About MILLS

(Continued)

National Thread Ltd., Sherbrooke, Que., will occupy a mill building being erected on 10th Ave., Sherbrooke, by the city of Sherbrooke at a cost of approximately $200,000.

Opelika Mfg. Co., Opelika, Ala., plans construction of two additional stories above its sewing room.

Patrick Rug Mills, Inc., Calhoun, Ga., is newly chartered. A. J. Horn and Mrs. Esther B. Horne of Hollywood, Fla., and Douglas Mitchell of Dalton, Ga., have been granted the charter. The company will manufacture a new type of floor covering.

Pepperell Mfg. Co., Lindale, Ga., is installing a new Abington card-stripping system.

Phenix Webbing Mill, 1322 Third Ave., Phenix City, Ala., is now producing narrow fabrics up to 4 in. in width. J. Kyle Spencer, Columbus, Ga., is president.

Shuttle-Wyze Carpets, Inc., Morganton, N. C., recently organized by John J Matwin, lately of Greenville, S. C., is reported preparing to open a plant by the end of November to make woven cotton rugs.

Southern Properties, Inc., New York, has purchased a building formerly owned by Russellville Mills, Inc. The company, headed by M. M. Clairmont, expects to get into production of sheetings by the first of the year. Southern Properties will carry out an extensive modernization and remodeling program, estimated at $125,000.

Spartan Mills, Spartanburg, S. C., is extending its air-change system to the card rooms of Mills No. 1 and No. 2. When work is completed this fall, only the upper weave room in Mill No. 1 will not share in the centrally controlled air system.

Springs Cotton Mills' new executive offices, research laboratory, and pilot mill, which have been under construction at Fort Mill, S. C., for some time, are nearing completion.

West Point Mfg. Co., Langdale Mill, Langdale, Ala., has awarded a contract to Batson-Cook Co., West Point, Ga., for an addition to the mill. Robert & Co. Associates, Atlanta, Ga., is architect and engineer.

West Warwick Weavers, Inc., West Warwick, R. I., has moved its executive offices to Providence, R. I.

Woolen and Worsted Mills

Alexander Smith, Inc., Yonkers, N. Y., has secured permission from NPA for a new warehouse at Baltimore, Md., to cost close to $385,000.

Blackwood, Morton & Co. (Canada) Ltd., St. Therese, Que., which began operations in its new plant early in 1951, plans to install additional new machinery and equipment from Scotland. The complete unit will involve expenditure of approximately $1,000,000 on machinery and equipment. The plant will house 20 axminster looms and other machinery.

F. C. Huyck & Sons, Rensselaer, N. Y., plans to acquire the entire capital stock of Gay Bros. Co., Cavendish, Vt. The Gay Bros. mill has 80,000 sq. ft. of manufacturing space and equipment for carding, spinning, and weaving.

Lester & Burton Ltd., Toronto, Ont., producers of gabardine and yarn-dyed worsted fabrics, has acquired additional manufacturing floor space and has installed much new machinery and equipment. When work is completed, the firm will occupy most of the 40,000 sq. ft. of floor space at 251 Soraurен Ave., Toronto 3, Ont. On adjacent property the company will erect a new building for additional storage facilities and a cafeteria for employees. When the expansion program is completed, the plant will produce 800,000 yd. of worsted cloth annually. Installation includes 24 Crompton & Knowles automatic looms.

Textile Weavers, Ltd., Grand'Mere, Que., is erecting a one-story extension to its mill. The addition will be 400x120 ft., of brick construction, and will cost about $300,000.

Wilton, N. H.—A model ex-

QUALITY-CONTROL HANDBOOK

Just Out!

1. Comprehensive handbook presents the whole story of quality control. Use it for basic or advanced review of *all* phases, not only the statistical, of the quality-control function—for quick reference to many formulas, data, record forms, and other practical information. Covers the economics of quality-control; organization for quality; acceptance, control, and assurance of quality; application to specific processes and products. Every section is the work of specialists; illustrative examples from actual cases and records offer practical working information. **Edited by J. M. Juran, Consulting Management Engineer. 768 pages, 6 x 9, 176 illus. $10.00**

COTTON LOOMFIXERS' MANUAL

2. Here are detailed instructions on the practical setting, adjusting, and timing of modern looms. This guide covers all phases of cotton loom fixing. If you want a complete course in loomfixing, or only a refresher to broaden your knowledge and increase you skill, this book will fit your needs to a "T." It covers such important subjects as left-off, harness, picking, warp-stop, filling-stop, and protector motions; loom construction; filling feelers; cutters; box multiples; shuttles, etc. **By Ivar Moberg, Instr. in Weaving, Loomfixing and Designing, Nashua Mfg. Co. 197 pages, 108 illus., $3.00.**

FABRIC DEFECTS

3. A practical guidebook of almost 200 actual case histories of defects in textile materials, with explanations of the contributing factors and suggestions for analysis. Describes principal types of defects occurring in cotton, filament rayon, spun rayon, and blended fabrics. Over 95 original photomicrographs illustrate gray-goods manufacturing defects from raw fiber through weaving—rayon or man-made yarn faults—dyeing and finishing faults—imperfections in finished garments, etc. **By J. B. Goldberg, Research Dir., J. P. Stevens & Co., Inc. 363 pages, 96 illus., $6.00**

PLANT ENGINEERING HANDBOOK

4. This practical handbook presents the facts that show how to run any industrial plant efficiently and economically. It deals with economic, mechanical, chemical, and power operation of a plant . . . gives essentials of today's good practice in 76 major areas of plant operation and maintenance. Includes such recent developments as synthetic rubber, industrial plastics, silver alloy brazing, trade waste disposal, etc. **William Staniar, Editor-in-Chief. 1955 pages, 1406 illus., 544 tables. $15.00, payable $3.00 in 10 days, $3.00 monthly.**

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- ☐ 4. Staniar—PLANT ENGIN. HANDBOOK, $15.00; payable $3 in 10 days, $3 monthly.

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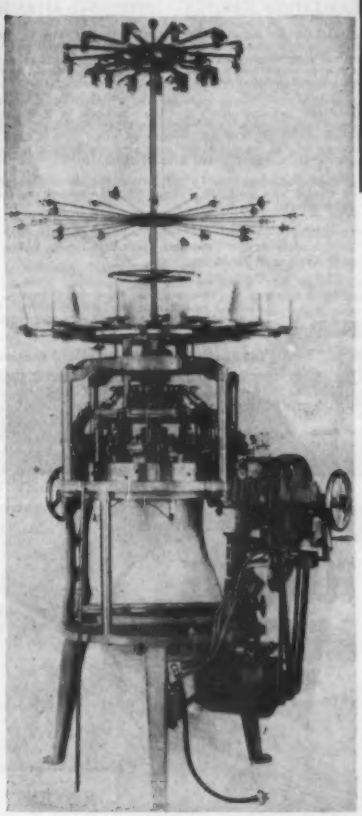

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WESCO stop motions were especially designed and built into ORDNANCE GAUGE machines to give perfect protection against knitting breakdowns, broken needles, unnecessary press-offs, smashes and wasted yarn. Always specify WESCO for trouble free production when ordering new machines.

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These services will be under the direction of Mr. Peter M. Fekula now affiliated with Barnes Textile Associates, Inc. They will complement our established consulting activities in the fields of general engineering, industrial engineering, cost and quality control, materials handling and industrial relations.

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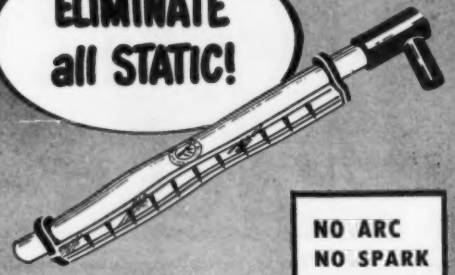

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News About **MILLS** (Continued)

perimental plant for the spinning of fine worsted yarns is to be constructed by the Abbott interests. It is believed that this will be the first plant of this type to be built by an organization that controls all operations, including manufacturing of textile machinery. The new plant will be equipped with Abbott-system long-draft changeover that uses no rolls or aprons, and the newly developed Abbott two-ply slub catcher. The plant is expected to be completed by next summer. It will provide 45,000 sq. ft. of floor space and will have 4,800 spinning spindles and 2,400 twisting spindles, designed for worsted yarns from 40s to 60s.

Woolens & Worsteds Ltd. has moved its new branch factory in Owen Sound, Ont., to larger quarters on the second floor of the North Grey Cheese Cooperative building in that city.

Woonsocket Worsted Co., Woonsocket, R. I., will bring a new industry to Laurens, S. C., as the $50,000 minimum quota needed to construct a building has been raised.

Synthetics Mills

Burlington Mills Corp., Cramerton, N. C., has completed a plant-improvement program at its Mayflower plant. The program included a new warehouse, an enlarged finishing section, enlargement of the boiler and power plant, a settling basin, and air-conditioning equipment. The program was begun a year ago and was completed at a cost of more than $500,000.

Burlington Mills Corp., Graham, N. C., is planning to build a warehouse addition to its Grabur hosiery plant. The building, of concrete, steel, and masonry, will contain 8,000 sq. ft. of floor space. The addition will care for increased production of throwing operations and will eliminate hauling from warehouses in other locations.

Camden Textile Corp., Camden, Me., has sold its controlling stock to Richard W. Chase, Lincolnville, Me., and Philip D. Clark of Newton, Mass. The company will use synthetic fibers and wool. The mill, which is old, will be improved as business conditions warrant.

Canada Celanese Ltd., Sorel, Que., is building an extension to its plant at an estimated cost of $500,000. General contractor is J. S. Hewson Ltd.

Celanese Corp. of America will begin construction shortly of a laboratory building at its research and development center in Clarkwood, Tex. Estimated cost is $500,000. Completion is expected in 1952.

Consolidated Textiles Ltd., is installing machinery and equipment in its new rayon-weaving mill at St. Hyacinthe, Que. Production is expected to be at capacity early in 1952. Cost of the brick-and-concrete building and additional machinery is approximately $750,000. Humidity and temperature controls are installed. The new plant will have 450 Draper and Crompton & Knowles automatic looms. New equipment will be installed in the beaming and slashing departments. The new unit will also contain throwing and creping machinery.

Courtaulds (Canada) Ltd., Cornwall, Ont., plans a 10- to 12,000,000-lb. increase in its annual production of viscose staple and of its high-tenacity filament yarn when plant expansion, begun last year, is completed. Much specialized machinery is still to be installed, delivery of which is subject to present defense programs of the United States and Canada.

Duffy Silk Co., Buffalo, N. Y., has been granted NPA permission to construct a new rayon mill at Murphy, N. C., to cost $440,250. Work will be carried out at once.

E. I. du Pont de Nemours & Co., Inc., Nylon Div., Wilmington, Del., has closed bids for structural-steel framing for its new plant near Pensacola, Fla., to be occupied by Chemstrand Corp., Philadelphia, Pa., for production of nylon under royalty agreement. Total cost is estimated at more than $10,000,000.

Dionne Spinning Mills Co.,

Hot Coffee

for Textile Workers Near Their Work

AERVOID *Vacuum Insulated*
PORTABLE HOT COFFEE DISPENSING CARRIERS

Management is finding that with the older workers, women workers, less experienced workers it is now necessary to employ, a mid-shift cup of hot coffee serviced to workers at their work is a welcome pick-up and refresher that workers appreciate.

Hundreds of large industrial plants have adopted the practice of servicing workers a mid-shift cup of hot coffee at their work by means of AerVoiD High Vacuum Insulated Hot Coffee Carriers.

They find that the saving in time as compared to having workers running around the plant quickly pays for the AerVoiDs.

Hot coffee can be prepared on the premises if you have the facilities, or supplied by some restaurant or caterer, and picked up by your company trucks.

The AerVoiDs will keep coffee hot for hours while awaiting service with the coffee dispensed direct from the Carriers, the fastest, most sanitary way to service coffee in an industrial plant.

Also AerVoiD hot food and soup carriers, AerVoiD bulk milk carriers, the AerVoiD mobile canteen to expedite factory feeding. Ask for Factory Envelope TW-10.

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You'll find CLINTON Quality Starches tops for every textile purpose!

CLINTON Textile Starches are scientifically manufactured with unvarying uniformity assured. Clinton Starches give your warp the necessary body, strength and pliability that means quality weaving every time. For years Clinton has been a leader in the production of starches for all textile purposes.

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LEADING textile plants are using Magni-Focuser—the binocular eye-aid—to give sharp magnification and reduce eye-strain in all precision work. Especially valuable in working on 60 gauge, 15 denier yarn. Restores the usefulness of the skilled hands of many older workers whose vision needs a seeing aid.

Prismatic lenses assure optical accuracy. Normal vision resumed by slightly lifting head. Used with or without eye-glasses.

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News About MILLS (Continued)

St. George West, Beauce, Que., has placed orders with United States and Swiss firms for new cotton-spinning machinery, totaling 18,000 spindles. New frames will replace some of the existing equipment. The company has at the moment a total of 23,000 spindles and produces spun rayon and blended yarns.

Eastern Rayon Mills, Inc., Cleveland, Ohio, plans a new rayon plant at Parkersburg, W. Va., with two main units, one a one-story and one a four-story building. Cost is reported over $7,500,000. Oscar Kohorn & Co., Ltd., New York, is the engineer.

Glass Fibers, Inc., Toledo, Ohio, plans installation of equipment in its mill at Waterville, Ohio., to increase output. Cost is estimated about $750,000. The plant is used for manufacture of fiber-glass cloth and other glass textiles.

Hartford Rayon Co., Rocky Hill, Conn., has awarded a contract to Standard Builders, Inc., Hartford, Conn., for a one-story $45,000 addition to the boiler house.

Industrial Rayon Corp., Cleveland, Ohio, has completed a rehabilitation and enlargement program at its home plant. The program adds about 6,500,000 lb. annually to the company's tire-rayon and tire-cord capacity.

Robbins Mills' new plant at Raeford, N. C., has been practically completed. The plant is in partial operation with about 20% of the machinery for the entire plant already installed. Some of its looms are now operating.

Silknit Ltd., Montreal, Que., plans to erect a new one-story building in Joliette, Que., containing 26,000 sq. ft. of floor space. Architects are Rene & Gerard Charbonneau.

Wesley-Mason Mills Ltd., Montreal, Que., is carrying out modernization programs at its three Quebec plants. About $200,000 will be spent on new machinery and general equipment. At Cap de la Madeleine, new machinery will include a picker, four cards, 10 deliveries of drawing, a slubber, and 1,000 ring-spinning spindles. In addition, 16 new jacquard looms, 36 Draper looms, a new 11-drum warp-sizing machine, high-speed warpers, and winders are being installed. At Drummondville, Que., 20 Crompton & Knowles box looms, two skein winders, three Universal quillers, and a tying-in machine have been installed.

Woodside Mills, Greenville, S. C., has purchased Haynsworth Mill and Otteray Texties, Inc., both located in Anderson, S. C. The two plants employ about 300 persons and operate 576 50-in. looms. No purchase price was announced.

Wool Combing Corp. of Canada Ltd., has invested about $350,000 in a new plant established in Galt, Ont., to expand processing of synthetic fibers.

Knitting Mills

Brownhill & Kramer, Inc., Philadelphia, Pa., will be sold within a year under terms of the will of the company's late president, Harry R. Brownhill.

Burlington Mills Hosiery Co. of Canada Ltd., Lachine, Que., has begun limited production of full-fashioned hosiery in a new building that has been under construction since the latter part of 1950. All production now in the 25,000-sq. ft. plant in Montreal is to be transferred to the new plant. The company is a wholly owned subsidiary of Burlington Mills Corp., Greensboro, N. C.

Butterfly Hosiery Co. Ltd., Drummondville, Que., has completed a renovation and modernization program that in 1950 included installation of three new 60-gauge, high-speed, 32-section Kalio full-fashioned machines; five sets of round-heel attachments for 45-gauge machines; five new Panmount high-speed finishing machines; and a new Proctor & Schwartz nylon-presetting machine.

Campbell Hosiery Mill, Chattanooga, Tenn., has purchased a battery of children's hosiery machines.

William Carter Co., Barnesville, Ga., has installed new Tube-Tex finishing equipment.

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In these days of high taxes and a general tightening of credit, capital is becoming increasingly hard to find. *But you may not have to look far to find it.*

The extra cash you need may right now be invested in your accounts receivable where it is unable to work for you to the fullest advantage. And because there has been a slow-down in the rate of collections, your vital working capital is now tied up for longer periods of time. This is a trend which might well continue.

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BACKWASHER—Available with one to five bowls. 44" wide bowls give increased liquor capacity. SARGENT'S *rearrangement of top squeeze roll levers allows easy accessibility for operator; permits more than double usual number of ends to run through machine.* Convenient working space provided by development of pneumatic loading for squeeze rolls, eliminates weights, rods, springs and adjusting wheels.

BACKWASH DRYER—Available with 29" or 44" aprons. Wire cloth or perforated plate aprons assure softer feel, better color, greater fibre strength. Warm air circulated by motor driven pressure-type fans passes alternately through extended surface heating coils and fibres. From 14 to 60 ends dried at one time. Available in production capacity of 100 to 600 pounds per hour, with 3, 4, 5 or 7 circulating fans.

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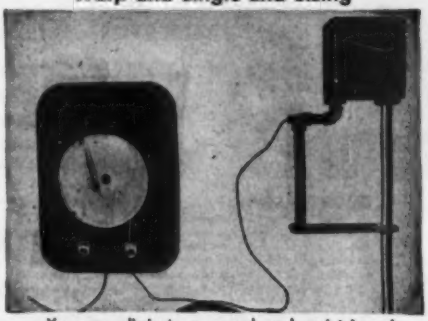

You can eliminate guesswork and maintain uniformity in warp sizing by using Norcross Recording Viscometers, now operating in more than 150 mills, or the newly developed Norcross Automatic Viscosity Control System (*Mechanical Agitation*).

The Norcross Corporation also manufacture Pressure Regulators . . . to maintain correct squeeze roll pressure on every set.

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News About **MILLS** (Continued)

E-Z Mills, Cartersville, Ga., has completed installation of a new Tube-Tex extractor and three new Tube-Tex finishing machines.

Elizabethton, Tenn. – City officials have let a contract to Daniel Construction Co., Greenville, S. C., for a new mill. It will be occupied under lease by Textron, Inc., Providence, R. I., for the production of tricot cloth. Cost is reported about $7,000,000, with equipment.

Ely & Walker Dry Goods Co., St. Louis, Mo., plans to purchase all outstanding stock of Rockwood Mills, Inc., Rockwood, Tenn. New machinery and equipment will be added to existing units. No change will be made in the present organization. Mill operations will be under supervision of Russel Carley.

Fuld & Hatch Knitting Co. will be continued at Cohoes, N. Y., although executive office was recently moved to New York City. The company was recently turned over to new management under a court order, with Samuel J. Rosenstein, West Hartford, Conn., as president.

Globe Knitting Works, Allegan Plant, Allegan, Mich., plans immediate expansion of its working staff to 90 persons. No enlargement of floor space is planned, but new equipment will be added. The weekly quota has been increased by 900 doz. garments, making a total of 2,800 doz. garments per week.

Gossett Knitting Mills, Griffin, Ga., plans to expand facilities and to install a complete system of vat-dyeing and boarding equipment. The mill has leased a building to be converted to its finishing department.

Graham Hosiery Mills, Inc., Graham, N. C., is reported planning a new addition to the mill for warehouse purposes.

Gurney Mfg. Co., Prattville, Ala., as part of its program to balance production, has installed four new Supreme knitting machines. The cotton-opening room of the mill is being revamped, and Superior cleaners and other equipment are being installed.

Hoover Hosiery Co., Concord, N. C., has discontinued operations at the Kerr St. mill. The move is in line with the firm's policy of modernization, which has included installation of 24 new 51- and 60-gauge, 30-section full-fashioned machines in the company's new air-conditioned mill near Concord.

Hudson Hosiery Co., Charlotte, N. C., has completed an expansion and modernization program involving expenditure of approximately $3,000,000. Installation of 38 additional 60-gauge full-fashioned hosiery machines has been completed in the Oakhurst plant. Air-conditioning and various other improvements have been made at the Oakhurst and Brevard St. plants. Some improvements also have been made at Shelby, N. C. The company plant at Stuttgart, Germany, is operating at capacity and producing 31,000 doz. prs. of hosiery per month.

Julius Kayser & Co., Brooklyn, N. Y., is installing machinery in its new mill recently completed at Belton, S. C. Seth Bridges is superintendent.

Labtex Tricot, Inc., Detroit, Mich., recently organized with capital of 2,000 shares stock, no par value, plans operation of a tricot knitting mill. George B. Mullin, 29,090 Morlock Rd., Farmington, Mich., is principal incorporator.

McComb Mfg. Co., McComb, Miss., manufacturers of tricot cloth and lingerie, has work progressing rapidly on a plant addition that will provide an additional 30,000 sq. ft. of floor space.

Morrowwebb Cotton Mills, Dallas, N. C., has opened a knitting department. The new section contains 22 Scott & Williams and Wildman interlock machines. Cloth is sold in the gray. A. R. Frady is overseer of the new department.

Mountain Hosiery Mills, Inc., Tracy City, Tenn., has been issued a charter to manufacture and deal in hosiery and kindred products. Incorporators were Robert W. Baggenstross, J. W. Blake, and J. Hossier.

Phoenix Trimming Co.,

THE "HEART" OF THE NEW HEIM *Unibal* SWEEPSTICK

Instead of an oversized stud hole which elongates during operation, the new HEIM Sweepstick has a Spherical Bearing consisting of an SAE 52100 chrome steel ball bored to fit the stud, and oscillating in bronze bearing inserts.

Any misalignment is compensated for by this unusual spherical bearing. Shock is absorbed in both directions of the stroke, and a softer and smoother pick action results. Production interruptions due to sweepstick failures are cut to a minimum. You can count on longer life and improved action with this durable HEIM Sweepstick.

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Superior STEAM GENERATORS

318 For more information, write direct or use Reader Service post card.

News About MILLS (Continued)

Chicago, Ill., has let contract to Ragnar Benson, Inc., Chicago, for four-story addition to its mill, estimated to cost about $200,000. Prather & Prather, Chicago, is architect.

Price Knitting Mills, Philadelphia, Pa., following the death of Louis Price, will operate under a partnership comprising a son, Alfred Price; Mrs. Minnie Price; and David J. Rosen.

Puritan Knitting Mills, Inc., Altoona, Pa., has changed its name to The Puritan Sportswear Corp.

Seamprufe, Inc., will begin construction at Holdenville, Okla., of a $700,000 plant for production of nylon-tricot lingerie and hosiery. Plans call for completion by next summer. The plant will employ approximately 500 workers. Citizens of Holdenville made available $300,000 in a pre-subscribed bond issue. Harold S. Caplan, a director of production for Seamprufe, said the company will invest $400,000 in new equipment.

Shenandoah Knitting Mills, Inc., Shenandoah, Va., subsidiary of Chadbourn Hosiery Mills, Inc., Charlotte, N. C., has added new 60-gauge full-fashioned equipment that is expected to increase production about 40%. Machines were installed in a new addition to the plant.

Spalding Knitting Mills, Griffin, Ga., is installing 13 new 22-point Southern Textile Machinery Co. loopers.

Ware Knitters, Inc., Ware, Mass., have made extensive improvements in the No. 5 building, including large metal hoods and vents over steaming machines. Winding machines have been enclosed to eliminate dust and to lessen noise.

Dyeing and Finishing Plants

Joseph Bancroft & Sons Co., Wilmington, Del., will build an addition and make alterations to building No. 18 to provide needed additional facilities. John E. Healy & Sons, Inc., Wilmington, is the contractor.

Bradford Dyers Association Ltd., has purchased controlling interest (about 60% of the issued capital) in two Canadian companies: Dominion Silk Printing Ltd. and Dominion Silk & Finishing Co. Ltd., both of Drummondville, Que. Operation of the Canadian firms will continue under management of W. S. Gall, president and managing director.

Franklin Piece Dye Works, Paterson, N. J., has been granted permission by the city to expand its facilities. The zone in which the plant is located has been changed from "Residence C" to "Light Industrial."

Delta Finishing Co., Wallace, S. C., has secured approval of NPA for a $170,000 one-story addition for warehouse service.

Kilburn Mill, New Bedford, Mass., has asked for construction proposals on a finishing plant that the company plans to build at Tryon, N. C. Plans call for a one-story building that will measure 276x282 ft. and will include space for a dye house, kier pit, bleachery, glazing room, packing and shipping operations, and offices. A 150,000-gal. capacity settling basin will also be built.

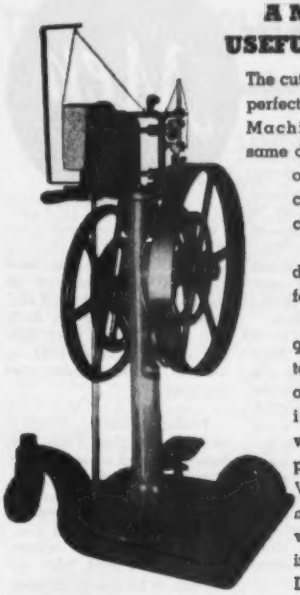
Lanett Bleachery & Dye Works, Lanett, Ala., has awarded a contract to A. K. Adams & Co., Inc., Atlanta, Ga., for a new addition to its main plant. Cost will be about $350,000. Robert & Co. Associates, Atlanta, Ga., is architect.

Model Dye Works (Canada) Ltd., Huntington, Que., plans a one-story extension, 140x60 ft., of concrete, steel, and brick construction. Consulting engineer is Shawingan Engineering Co. Ltd.

Mount Hope Finishing Co., North Dighton, Mass.—In a recent statement, Robert D. Milliken, assistant treasurer, stated that the company is still interested in a plant in the South to operate in conjunction with the parent plant.

Rock Hill Printing & Finishing Co., Rock Hill, S. C., has completed a new floor that adds 1½ acres of warehouse space to its storage facilities. The addition cost about $100,000.

A NEW AND USEFUL MACHINE



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This machine is designed especially for heavy materials.

The chain drive gives positive drive to the Sewing Head and prevents stalling of the Head when the needle pierces the material. With this drive, the machine operates very easily for sewing Heavy Woolens, Ducks, Felts, etc.

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HOW TO PREVENT IRON STAINS . . .

Try this experiment!

Versene T*
BEAKER #1
(one liter) 500 cc of 5% caustic soda solution plus 5 cc of 0.1 Molar Ferric Chloride (27 gms. $FeCl_3 \cdot 6H_2O$ per 1000 cc water).
BEAKER #2
(one liter) Same contents as Beaker #1 but with 5 cc of Versene T added.

PROCEDURE BY STEPS

First, add the caustic to each beaker. Then, to Beaker #2, add 5cc of Versene T. Heat both beakers to boiling point and add the 5cc of the Ferric Chloride to each beaker. Note the difference between the solutions. Beaker #1 (containing no Versene T) is muddy with rust. Beaker #2 is water-white. Next, put a small strip of clean white cotton cloth in each beaker and boil a few minutes. Remove strips and rinse with water. Note the difference. Versene T has kept its strip white in spite of the iron that was added.

Last, take the other rust-stained strip, cut in half and place one-half in Beaker #2 containing the clear solution with the Versene T in it. Boil for a few minutes. Remove, rinse and compare. The Versene T has now restored the rust-stained cloth to its original whiteness.

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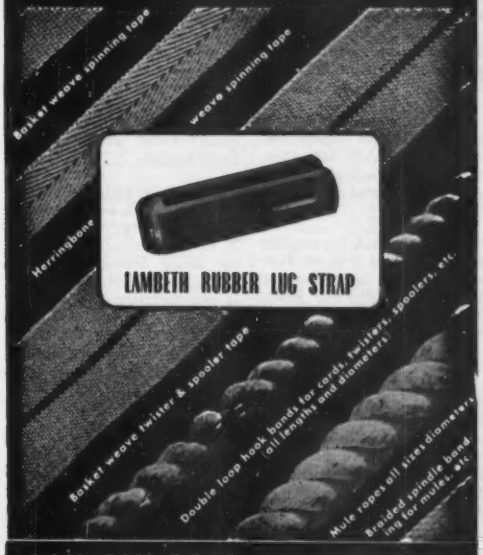
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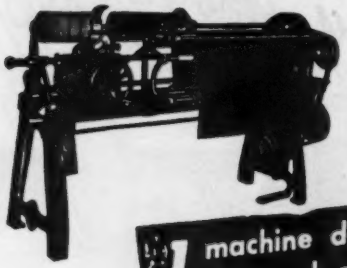

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NEWS ABOUT Men

Gerald E. Amerman, vice president and managing director of Cluett, Peabody & Co. of Canada Ltd., has become president of the company, a wholly owned subsidiary of Cluett, Peabody & Co., Inc., Troy, N. Y. **B. T. Leithead,** president of the parent company, is now chairman of the board of the Canadian firm.

V. A. Ballard has been named superintendent of the Gayle plant of Springs Cotton Mills, Chester, S. C., succeeding **O. E. Bishop,** who is on sick leave. Mr. Ballard was formerly assistant to the manager of the Lancaster, S. C., plant of the Springs group of mills.

William Barstow has become night superintendent of Hudson Worsted Co., Hudson, Mass.

F. M. Blois, general superintendent, Stanfields Ltd., Truro, N. S., is now a director of the company. He has been with the firm for 34 years.

Ronald W. Boling, assistant to the plant manager at American Enka Co., Enka, N. C., has been appointed administrative assistant to the technical vice president, succeeding **Francis M. Gilman,** recently named plant director of industrial relations.

Paul Brousseau is now plant superintendent of Duplan Dyeing Co. Ltd., Valleyfield, Que. He was until recently on the staff of Associated Textiles of Canada Ltd.

Raymond Brush has resigned as vice president of A. M. Perlman, Inc.; and as president of Star Rayon Mills, Fall River, Mass., and of Fawcett Mills, New Bedford, Mass.

Cason Callaway, Jr., has purchased an interest in Medley Mfg. Co., Inc., Columbus, Ga. He has resigned his position with Callaway Mills Co. as assistant to the vice president. **L. H. Morrison,** formerly of LaGrange, Ga., is president of Medley.

Fred J. Came has been named general manager of Tingue Mills, Inc., Seymour, Conn.

W. P. Clement has been appointed superintendent of the rayon division at Rock Hill Printing & Finishing Co., Rock Hill, S. C. He has been with the company since 1944 as head of the rayon-dyeing department.

Walter B. Dillard, formerly of New Braunfels, Texas, has been promoted to manager of Calcot and Canebrake Spinning Mills, Uniontown, Ala. The plants are operated by California Cotton Mills Div., National Automotive Fibers, Inc. **R. C. Forrest,** who was manager of the plants for many years, has resigned to take up public relations work in Philadelphia.

Charles S. Dyson, a vice president and director of Burlington Mills Corp., Greensboro, N. C., has resigned. Mr. Dyson has not disclosed his future plans. No successor has been named.

Edward M. Epstein, former technical superintendent of the rayon plant of E. I. du Pont de Nemours & Co., Inc., Richmond, Va., has been appointed manager of the company's new quality-control section of the rayon division.

James L. Eskridge, who has been associated with Burlington Mills Corp., Greensboro, N. C., in an executive capacity, has joined Stonecutter Mills Corp., Spindale, N. C., to assist in manufacturing.

Charles E. Fogg has been appointed to the new position of assistant manager of the Yerkes cellophane plant of E. I. du Pont de Nemours & Co., Inc., Buffalo, N. Y.

Charles S. Frost, general manager of the Bank of Nova Scotia, is a new director of Cosmos Imperial Mills, Ltd., Hamilton, Ont., and Yarmouth, N. S.

G. N. Garland, former Rayon Administrator in the

TEXTILE WORLD *Reprints Available*

▶ **Reprints of the following articles run in past issues of TEXTILE WORLD are available at the prices indicated. To order, write or use the coupon below, stating the titles of the reprints desired. Enclose check or money order payable to TEXTILE WORLD.**

SYNTHETIC-FIBER CHART — **25¢ each, 15¢ in lots of 20 or more**
The latest (1951) edition lists the 12 main types of synthetic fibers and reports their physical and chemical properties. Comparative tables on properties of cotton and wool are included. The chart also gives figures on synthetic-fiber consumption, lists all commercially available synthetic continuous-filament yarns and staples, and gives other important data.

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These tables permit quick determination of ½ to 25% shrinkage, covering pieces from 50 to 100 yd.

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STANDARDS DEPARTMENTS (March, '50). 8 pages, 25¢ each, 15¢ in lots of 20 or more.
THE PACIFIC CONVERTER (May, '50). 12 pages. 25¢ each, 15¢ in lots of 20 or more.
THE PUERTO RICO TEXTILE STORY (March, '51). 16 pages. 25¢ each, 15¢ in lots of 20 or more.

The following reprints are 10¢ each, 7¢ in quantities of 20 or more.
TEXTILE WORLD's Finishing Symbols (Jan., '49)
Yield Chart Gives Knitting Data (July, '49)
New Dye Technique Shows Maturity of Cotton (July, '47)
Let's Knot—and Do It the Right Way (June, '46)
Ramie—an Impartial Report (Dec., '45)
Measured Motion Times the Job Faster (Oct., '49)
Efficiency and Flexibility Offered by Finishing Ranges (Oct., '47)
Performance Standards Should Govern Oil Purchases (June, '48)
Running Rayon on the Woolen System (Dec., '45, through March, '46)
Effective Temperature Influences Air Conditioning (April, '47)
Electronics at Work for Textiles (July, '45)

EDITOR
TEXTILE WORLD
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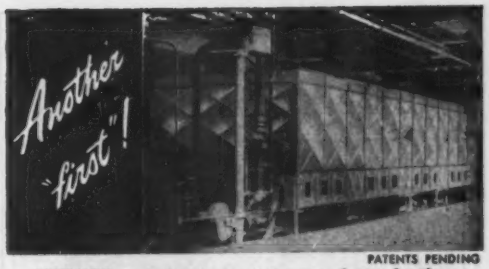

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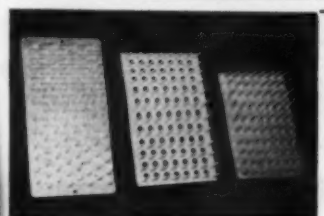

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News About MEN

(Continued)

Wartime Prices and Trade Board, Canada, and **George K. Sheils**, president of Canadian Varnish Co., Ltd., Toronto, are new directors of Wesley-Mason Mills, Ltd., Montreal. Mr. Garland has also been appointed sales manager of the company.

Richard L. Haber, former vice president and general manager of Cashmere Corp. of America, Cleveland, Ohio, has been elected president of the company, succeeding his father, **M. W. Haber**, now chairman of the executive committee.

Frank Harris has resigned as overseer of the cloth room at Republic Cotton Mills, division of J. P. Stevens & Co., Inc., Great Falls, S. C. He has been succeeded by **Max McKeown**. Mr. Harris held the position for 27 years.

S. Herschel Harris has been elected vice president in charge of production, a new position, at Standard-Coosa-Thatcher Co., Chattanooga, Tenn.

Dallas Head is now with Wamsutta Mills, New Bedford, Mass., in an executive capacity. He was previously with Bates Fabrics in Chicago, Ill.

Harold Heap has been elected vice president and a member of the board of directors at Cherokee Textile Mills, Inc., Knoxville, Tenn., and Spindale Mills, Inc., Spindale, N. C. He has been put in charge of the Cherokee-Spindale sales office in New York.

O. G. Helms has become overseer of spinning at Johnston Mfg. Co., Charlotte, N. C.

C. M. Henderson and **W. L. Lassiter** have been elected to the board at Mandeville Mills, Carrollton, Ga., succeeding **Col. R. D. Jackson** and the late **J. G. Chenev**. Mr. Lassiter is secretary of the mills.

John R. Hoffman, president and general manager of Illinois Knitting Co., Mt. Vernon, Ill., has retired after being with the firm for 40 years. He has been succeeded by **Fred R. Thomas**, formerly with Wilson Bros., Troy, N. Y.

Joseph P. Hollenstein retired recently from Pacific Mills, Inc., New York, under the company retirement plan. He entered the industry in 1904 and joined Pacific in 1927.

Carl O. Hoyer has been named director of the general engineering department of Chemstrand Corp., Philadelphia, Pa. Mr. Hoyer was formerly with the plastics division of Monsanto Chemical Co., Springfield, Mass.

Walter S. Huff has been appointed manager of the Greer Plant, Victor Monaghan Co., Greer, S. C. Conversion of the plant into a box-loom mill is nearly completed.

Felix R. Hulser is joining Goodall-Sanford, Inc., as manager of Mill "B" in Sanford, Me. Mr. Hulser has been associated with Cheney Bros., Manchester, Conn., as superintendent of the pile-fabric division.

H. E. Humphreys, Jr., president of United States Rubber Co., New York, was recently elected also chairman of board. He succeeds **Herbert E. Smith**, chairman and former president, who has retired after 38 years' service but will continue as a director and member of the finance committee.

James W. Jordan, assistant overseer of slashing at Pepperell Mfg. Co., Lindale, Ga., has been made overseer of the slashing department, succeeding the late **Broadus W. Moak**.

Frank Ledger has become superintendent of Hudson Worsted Co., Hudson, Mass., succeeding the late **Albert Edmondson**. **Henry Thorring** has become overseer of combing.

M. O. Lee has been named vice president in charge of operations at Vanity Fair Mills, Inc., with headquarters in Reading, Pa.

John Leighton has become overseer of finishing at Baxter Woolen Co., Somersworth, N. H., succeeding **R. Krueger**, who has gone to Wyandotte Worsted Co., Waterville, Me.

Saul Ludwig has been elected vice president in charge of sales at Barbet Mills, Inc., Lexington, N. C.

Stephen V. Makuta of Hazelton, Pa., and Greensboro, N. C., has accepted a position at Stonecutter Mills, Rutherfordton, N. C., as assistant to the director of job simplification.

H. T. Markey, advertising

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News About MEN

(Continued)

manager of Dominion Textile Co. Ltd., Montreal, Que., has been appointed assistant to **L. P. Webster**, vice president for administration.

Charles R. Mayer has been named assistant to the president of Textileather Corp., Toledo, Ohio. He formerly was vice president in charge of production at United States Bobbin & Shuttle Co., Lawrence, Mass.

Fred W. Noechel, formerly with Callaway Mills Co., USEO division, LaGrange, Ga., has joined Deering, Milliken & Co., Inc., as assistant to **E. H. Hines**, general manager of Johnston Worsted Mills, Johnston, S. C.

J. A. Parker, formerly associated with Burlington Mills Corp., Burlington, N. C., has become plant superintendent at Cantex Mfg. Co., Canton, Ga. Operations of the Cantex plant are to be expanded to include finishing of textiles.

Dr. Edwin A. Rees has resigned as director of felt sales and member of the board of directors of F. C. Huyck & Sons, Rensselaer, N. Y. He will continue with the firm as consultant on papermakers' felt problems. Dr. Rees joined the company in 1920 and organized its research laboratory.

Theodore Riegel has been appointed assistant to the executive vice president of Riegel Textile Corp. **J. G. Spivey** has been named to succeed Mr. Riegel as manager of cotton-gray-goods and job-finishing sales.

Arthur L. Sampson, former designer with Montrose Worsted Co., Granby, Que., has become designer and assistant superintendent at Yorkshire Worsted Mills, Lenni, Pa.

W. H. Stocking has been elected vice president in charge of sales at Caron Spinning Co., Rochelle, Ill.

Paul M. Stoner is now general industrial foreman of woolen textiles at Auburn State Prison, Auburn, N. Y. He was formerly boss spinner at Glenbrook Woolen Mills, Skaneateles Falls, N. Y.

Harry B. Tappen is now in charge of Locke Cotton Mills Co., a department of Iselin-Jefferson Co., Inc., Concord, N. C. Mr. Tappen has been associated with the firm for 20 years in the sales division.

Robert Train, with Bibb Mfg. Co., Macon, Ga., since 1937, has been appointed head of the cotton office. **Hugh M. Comer** is now controller of the company.

L. L. Trent has been appointed personnel director at Peerless Woolen Mills, Rossville, Ga. He succeeds **Montgomery Montague**, who has been transferred to the purchasing department. Mr. Trent resigned as supervisor of the Tennessee extension center of the University of Tennessee to accept his new position.

Felix Varras is now manager of St. Johns Textile Mills Ltd., Franco-Canadian Dryers Ltd., and Demetre Saulte & Ciriez (Canada) Ltd., in St. Johns, Que., succeeding **Charles Tiberghien**, resigned.

Andrew B. Walls, Jr., who has been with American Woolen Co., New York, since 1899, when he began his career as office boy, has retired as vice president in charge of woolen manufacturing.

Edmond H. Webb has been appointed general overseer of bleaching, and **Dewey Arnold** has been appointed assistant superintendent in charge of bleaching and finishing, at Appleton Co., Anderson, S. C.

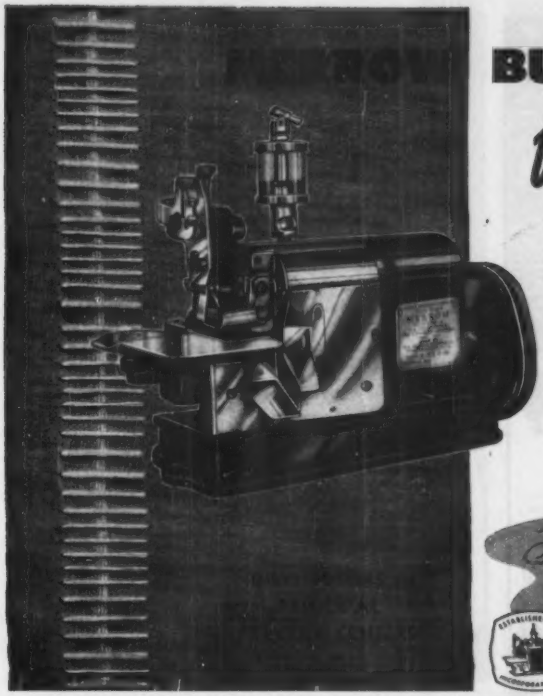
Joseph A. Webster has become technical superintendent at Kanmak Mills, Inc., Kulpmont, Pa.

Arnold Whitworth has been made overseer of weaving at Nashua Textile Co., Inc., Nashua, N. H.

L. W. Woodward, an office employee of Eastman Cotton Mill, Eastman, Ga., for several years, has been elected a director of the company, succeeding the late O. C. Pound.

Arthur J. Yetman has been named overseer of carding at Vermont Textile Co., North Montpelier, Vt. He was previously with Brampton Woolen Co., Newport, N. H.

J. B. Young resigned his position as assistant superintendent at Montreal Cottons Ltd., Montreal, Que., to join Hudson Piece Dye Works, Paterson, N. J.



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Dye-resistant and boil-proof, permanent, inexpensive, quick and easy to use.

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OBITUARY

Thomas H. Bryant, president and treasurer of Bryant Finishing Co., West Warwick, R. I., died at his home in Pawtucket, R. I., after a long illness.

Dr. Robert Lee Caviness, 85, president of Enterprise Mfg. Co., Coleridge, N. C., died recently.

Harry Lonsdale, 68, senior partner of Lonsdale Fabrics, Philadelphia, Pa., died near Bergen, Norway, during a tour of Europe.

Robert E. Rockwell, 42, president of Rockwell Woolen Co., Leominster, Mass., died recently in Boston.

H. M. Smith, 55, president of Toronto Dyeing & Finishing Works Ltd., Toronto, Ont., died recently.

Isaac Smith, 55, president of Pedro J. Smith, Inc., New York, died recently in Barcelona, Spain.

Charles A. Turner, 66, president of Chester Lace Mills, Chester, Pa., and president of the National Assn. of Lace Curtain Mfrs., died recently.

Max Weinberg, 62, president of Harrison Mills, Inc., East Newark, N. J., and of Granite Fabrics Corp., New York, died recently. He had been associated with the knit-goods industry for 40 years.

W. C. Sykes, 73, vice president and general manager of Statesville Cotton Mills, Statesville, N. C., until 1947, when the plant was sold to Burlington Mills Corp., died recently.

Julius Clarence Gregson, 82, who helped organize Hadley-Peoples Mfg. Co., Inc., Siler City, N. C., and became its general manager, died recently.

Russell L. Harmon, 43, production manager of Burlington Mills, Australia, Ltd., died at Maitland, N. S. W., Australia.

Benjamin Marshall Rogers, 71, superintendent of Oakboro Cotton Mills Co., Inc., Oakboro, N. C., for 27 years, died recently.

John Whewell, superintendent of Chicopee Mfg. Co., Manchester, N. H., died recently in Fall River, Mass.

Ernest F. Bower, 54, overseer of dyeing for Faulkner & Colony Mfg. Co., Keene, N. H., died recently.

John S. Boyes, 82, former boss carder at various mills in Rhode Island, died recently in Barrington, R. I. Mr. Boyes retired in 1943 after more than 50 years in the textile industry.

Donald A. Buchan, 43, Southern representative of the Davis & Furber Machine Co., died of a heart attack at his office in Charlotte, N. C.

James W. Burke, 88, former chief engineer of Harvard Mills, Wakefield, Mass., died recently. He was with the company for 50 years.

David L. Davis, formerly overseer of carding and spinning at Thermoid Co., Trenton, N. J., was killed recently in an automobile accident.

T. G. Dulin, 49, chief chemist for Lowell Bleachery South, Griffin, Ga., died recently in a hospital in Athens, Ga.

Corydon M. Grafton, 48, chief chemical engineer of Goodall-Sanford, Inc., Reading, Mass., died recently in Boston.

George L. Martin, 74, retired foreman of the sewing department of Brinton-Peterboro Carpet Co. Ltd., Peterborough, Ont., died after a long illness.

Guy C. Meredith, 69, who retired in April after 41 years as overseer of the cloth room of Gaffney Mfg. Co., Gaffney, S. C., died recently.

Henry C. Perry, head of the textile division of Manton Gaulin Mfg. Co., Inc., Everett, Mass., died of a heart attack during a visit to Portland, Me.

Noel Tutin, 71, superintendent of finishing at Ames Worsted Co., Lowell, Mass., until his retirement a year ago, died at Methuen, Mass.

David Walker, 79, overseer of mending at Hayward-Schuster Woolen Mills, Inc., East Douglas, Mass., since 1948, was killed in an automobile accident while on vacation in Baltimore, Md.

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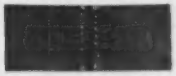

Lace spindle tapes 10 times faster with Clipper No. 25 Spindle Tape Hooks. Tapes can be prepared in advance so frame is shut down only long enough to place new tape on the pulleys and join ends with connecting pin. Tapes run true—last longer—run smoother—require less tension—VIBRATION IS ELIMINATED

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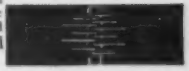

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OVERSEERS FOR FOLLOWING DEPTS.: dying tubular cotton knitted cloth worsted drawing; worsted spinning; rayon winding and quilling; double woven tricot machines; cotton piece goods dyeing; worsted weaving, dressing and finishing for southern mills; rayon twisting; dyeing cotton and nylon hoses and nylon tricot cloth; dyeing cotton-rayon narrow fabrics.

SECOND HANDS FOR FOLLOWING DEPTS.: woolen carding; woolen finishing, 3rd shift; cotton bleaching and finishing combined; picking, carding and spinning, rayon; cotton weaving Draper looms; dyeing cotton and nylon hoses and nylon tricot cloth.

CHEMISTS, chemical engineers and laboratory men; time study man; industrial and mechanical engineers; chief power plant engineer; cost accountants; knit mech. fixers; salesmen for gums, waxes and chemicals; head sew. mach. mechanic and sew. mach. fixers; tricot mechanics; loom fixers; worsted yarn salesman; chemist for textile chemical mfg. plant; woolen mule fixers; cotton card grinders; sewing room methods engineer.

LIST YOUR CONFIDENTIAL APPLICATION WITH US to keep informed of attractive positions open in the textile mills.

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294 Washington St. Boston, Mass.

WANTED

ASS'T. SUPERINTENDENT . . .
Cotton Weaving Mill

thoroughly experienced. Must be familiar with dobbies, jacquards, Draper and Crompton & Knowles. State background and references in first letter. Steady position. Good opportunity for 1st class man. Paterson, New Jersey area.

Write P. O. Box 204
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Require man with good general knowledge of warping and weaving

Mill located in York, Pennsylvania. Steady and responsible position with good opportunity for right man.

Apply by letter only to

Century Ribbon Mills, Inc.
1071 6th Ave., New York 18, N. Y.

State full details of experience, salary expected, education, etc. All information will be kept confidential.

P-1971, Textile World
330 W. 42 St., New York 18, N. Y.

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A young progressive organization wants someone with thorough knowledge of weaving and throwing to solicit business in Pennsylvania, New Jersey and New York.

SW-1902, Textile World
330 W 42 St., New York 18, N. Y.

DYER and ASSISTANT DYER WANTED

Excellent opportunity with large concern for experienced dyer and an assistant dyer. Men with experience in cotton, rayon and nylon knit goods, also hanks and cottings preferred. Out of town location. State full particulars. Strict confidence assured.

P-2021, Textile World
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REPLIES (Box No.): Address to office nearest you
NEW YORK: 330 W. 42nd St. (18)
CHICAGO: 520 N. Michigan Ave. (11)
SAN FRANCISCO: 68 Post St. (4)

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COLLEGE GRADUATE, age 25-35, for position as Wage Administrator. Experienced in Labor Relations, Incentive Methods, Time Study Procedures, and Job Evaluation Methods. Duties include surveys, wage-rate controls, job descriptions and related responsibilities. P-1530, Textile World.

PRODUCTION MANAGER, Wanted. Experienced in time and motion studies, materials handling, improved operating methods, etc. Plant located in South, operating cotton mill, finishing plant and cutting up piece goods. Permanent position with attractive compensation and opportunity for advancement. State engineering education and experience, age, marital status, give references. Applications kept confidential if requested. P-1907, Textile World.

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PLANT SUPERINTENDENT have 30 years experience on Rayon, Nylon, Silk Acetate, on Draper Loom—C and K. Loom. Will be open for position first of the year. PW-1868, Textile World.

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TEXTILE GRADUATE, 22 years experience, former spinning machine fixer, former foreman of worsted drawing, spinning, twisting and shipping dep., French and Bradford system. Middle aged, several languages, seeks position as superintendent or assistant with progressive firm. PW-1955, Textile World.

WOOLEN CARDING Overseer desires connection with Progressive company. 25 years' experience. Good references. 44 years of age. Married. Sober and reliable. Experience in detail upon request. PW-2049, Textile World.

YOUNG MAN, 32, married, thoroughly experienced. Textile analytical laboratory. Resume on request. PW-1957, Textile World.

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WOOL AND Angora Rabbit Hair Spinning Mill for rent, sale, lease, or trade. Located Malta, Montana. Operating 7 years, fully equipped. Ready to go, little or no Money required. Wonderful Possibility. Gross Sales 1946 over $190,000.00, priced today 70% below 1949 inventory value. Address, Oregon Woolen Mills, 6201 S. E. Overland St., Portland 22, Oregon.

CONTRACT WORK WANTED

SILK THROWSTER has time open to make tram and organzine. Quality work only. Write Box 8399, 217 7th Ave., N. Y.

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Technically experienced in spinning and weaving, wants one or two good lines. Guarantee best contacts in Southern Textile industry.

RA-1835, Textile World
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Excellent reason for selling this completely equipped mill for mfg. of clothesalines, venetian blind cord and mops.

3000 pd. per 40 hr. week capacity. Factory building and land. Machines, motors, fixtures, tools, etc. Excellent labor market and transportation facilities. Mill in full production

Asking price could be paid in full by capable management in less than two years out of profits.

For full details, inspection and price, write

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Completely equipped for manufacturing Novelty and Staple Fabrics. Established 20 years. Needed capital up to $50,000.

Location in Quebec. Details for serious investor

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Machinery sold on commission basis. Woolen yarn spinning contracts. Negotiated this service. Periodical supervision for quality control. We install and overhaul. Worsted carding and woolen carding and spinning machinery. Expert technical advisers on woolen yarn properties.

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Industrial Construction
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COST VALUATION OVER $1,000,000.00

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of

INTERNATIONAL DYE AND PRINTS WORKS

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8—Textile Roller Print Machines, 8 to 14 Colors
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Large quantity of Copper Print Rollers
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1—Dalglish Pin Tenter Range 100' long x 68" wide
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5—Textile Open Width Washers
4—Palmer Quetsch Finishing Ranges
5—Tensionless Conveyor and Loop Dryers
200—Copper Dry Cans 50"-96"
6—Centrifugal Extractors 40" to 60", copper and rubber lined baskets
1—Stainless Steel Boil Off Caustic Range
3—Textile Calenders, 3 rolls, 50"-80" wide
3—Hi-Speed Tubers, 60" wide
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1—Micro Set Pneumatic Padder, 60" wide

Other Items include: Tubers, Examiners, Beamers, Motor Generator Units, Variable Speed Motors, D. C. Motors, Button Breaker, Mixing Kettles, Mangles, Quetsche, Skids, Hydraulic Lift Trucks & Cloth Trucks, Stainless Steel Falls, etc.

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8-STORY & BASEMENT FIREPROOF BUILDING

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Owner will consider application from a substantial tenant on long-term lease.

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With six set of cards, three spinning frames, three mules, twenty-four Automatic looms, dyeing and finishing motors and all other machines needed for a complete plant.

We can furnish repair parts and repair all types and makes of Platt, Furbush, and Bridesburg woolen mules. Cylinders, workers, strippers, and parts for woolen and Worsted cards.

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400 to 600 lbs.

BOIL-OFF KIER

For Cotton Yarns. Give Details.

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OF ALL DESCRIPTIONS

WANTED

SIDNEY BERTNER CO
21 West 15th St., N. Y. C.
Yarn Representation wanted in N. Y. area

WANTED

Surplus Textile Equipment of all Types

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1064-1080 Main Street, Pawtucket, R. I.
Empire State Bldg., New York, N. Y.
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Glycols—Cellosolves—Ethanolamines
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25 WILDMAN KNITTERS

Excellent condition, all now in operation. Spring needle machines, all 28 cut, stop motions, over-head drives. Assorted 12" through 17" and 20", 20"-12 feed; 17"-10 feed; 15" & 16"-8 & 10 feed; 12", 13", 14"-8 feed.

FS-2029, Textile World
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One new 68 inch stainless steel special built dye jigg, rubber covered squeeze rolls. Air operated, friction riding beam rolls. Prints upon request.

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ENGINEERS
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Tolhurst 72" Belt driven, 15 H.P. Excellent condition. Write

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FOR SALE

Hudson, New York Warehouse

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DYEING & FINISHING

1 AGER, Tower, 6' x 5' x 20', takes 54" goods.
2 BATCHERS, Single Drum, 66"-79" face.
1 C. & M. BRUSH, 8/4 up & down, 66" on bristles.
1 C. & M. Vertical BRUSH, 4 roll 57".
1 P. & W. STEAM BRUSH, 2 roll, 63".
1 Kentucky Knit Goods CALENDER, 36".
1 Granger CALENDER, Friction, 3 roll, 43½".
1 Haubold CALENDER, 4 roll, 112".
1 Textile Embossing CALENDER, 72", cobra grain design.
1 Textile Embossing CALENDER, 62", top roll smooth.
2 C. & M. CHINCHILLA MACHINES, 90".
1 Yorkshire CRAB, 2 bowl, 72".
1 D. Geesner Semi-DECATUR, 70" x 36" dia. cyl., with pump.
1 C. & M. DEWING MACHINE, 60" adjustable deflector boards.
1 P. & W. Combination OPEN WIDTH ROLLING DOUBLING & WINDING MACHINE 66".
2 Windle DOUBLING, WINDING & MEASURING MACHINES 60"-66".
1 Schofield DOUBLING & WINDING MACHINE 60".
1 P. & S. LOOP DRYER, Revolving Stick, 84".
1 Philadelphia LOOP DRYER, Revolving Stick, 94".
1 Van Vlaanderen Net DRYER, 40' x 8'9" width.
1 Hunter Pin Tenter DRYER, 30' long, 72" width.
1 Sargent Rawstock DRYER, 30', apron 60", 1000 lbs. per hr.
1 Hunter Rawstock DRYER, 20', apron 72" wide, 500 lbs. per hr.
1 Morton Combination PACKAGE & BEAM DYEING UNIT, S.S. 300 lb.
1 Obermaier PACKAGE DYEING MACHINE, C.I., 125 lb.
1 Tolhurst EXTRACTOR, S.S. Basket, 48".
1 Troy Mercury EXTRACTOR, S.S. Basket 30".
2 Burkhardt EXTRACTORS, Rubber lined Baskets, 72".
1 Hunter Vacuum slot 80" width NASH L5 PUMP.
1 E. & H. FOLDER, adjustable 1-1¼ yards, 48¾" jaw.
1 Hacking FOLDER, adjustable ½-1 1/8 yards, 78" jaw.
1 Hunter FULLING MILL, New, Model 26S.
2 Hunter FULLING MILLS, #16 double compartment units.
1 Roy MAPPER GRINDER, Rolls up to 90".
20 C. & M. INSPECTING MACHINES, 64" forward & reverse.
2 Quaker City MIXING KETTLES, 60 gal. each, C.I., heating coils & pumps.
1 D. & F. Knit Goods NAPPER, 20 roll 80".
1 McCreery Knit Goods NAPPER, 18 roll, 66".
1 D. & F. NAPPER, S.A. 14 roll, 86".
1 P. & W. NAPPER, D.A. 24 roll, 72".
1 Geesner NAPPER, D.A. 18 rolls, 80".
1 D. & F. NAPPER, D.A. 24 roll, 86".
1 Werner PADDER, 3 roll, 70".
2 P. & W. PERCHES 50"-60" 97 yard dials.
2 Werner POWER PERCHES 93½", tilting table for mending.
1 Morrison PALMER TENTER QUETCH UNIT, 60" with 40' Tentar.
1 Van Vlaanderen PALMER QUETCH UNIT, 66".
1 Geesner STEAM PRESS, Hi-Production, 90".
1 Vuelker STEAM PRESS, 36".
1 PRINT MACHINE, 7 color, 62", with blanket, washer, 10 cans.
1 Waldron PRINT MACHINE, 6 color, with blanket etc., 29".
2 Van Vlaanderen QUETCHES, 2 roll, 50". 65½".
1 Van Vlaanderen QUETCH, 3 roll, 50".
1 Sargent SCOURING UNIT, 2 bowl, 36".
1 Sargent SCOURING UNIT, 4 bowl, 36".
1 Arlington SCUTCHER, 72", beaters & scroll rolls.
1 Dinsmore Portable Electric SEWING MACHINE, Merrow D3B head.
12 Rotary Foot Power SEWING MACHINES, Portable type.
4 Dinsmore Railway Portable SEWING MACHINES, 56"-68".
1 P. & W. Automatic SHEAR, B.B. 4 blade, 90".
2 C. & M. SHEARS, Plush type, single blade, 60"-85".
1 C. & M. SHEAR, Yankee Clipper, High Speed Model, B.B. single blade, 66½".
2 P. & W. SHEARS, Model B, double blade, 66½".
3 P. & W. SHEARS, Model A, double blade, 66½".
1 C. & M. SHEARING, BRUSHING & STEAMING RANGE, with 2 double blade shears, 66½".
2 Cohoes SLASHERS, 2 cyl. units, 57½".
1 C. & M. TACKING & DOUBLING UNIT, 92", Singer Sewing Head.
4 Schiffer WET TEASLING GIGS, single cylinder units, 66".
1 Butterworth TENTER FRAME, clip, 40'x54".
1 Textile TENTER FRAME, clip, 60'x48" with housing & dry cans.
1 Butterworth TENTER FRAME, pin 50'x72", with housing & heating cyls.
1 Textile TENTER FRAME, pin, 60'x72".
1 Butterworth Open SOAPER, 7 compartment unit, 50".
1 WASHER, 3 compartment, rope type, 48".
1 Hunter WASHER, 4 string, Model G.
1 R. HUNT WASHER, 4 string, Model D.
4 C. & M. Cloth WINDERS, Type CO and CN, 50"—80" units.

LOOMS

21 DRAPER X, 44" mtrsd.
100 DRAPER XR, 44" dobbies, mtrsd.
200 DRAPER XD, 44" dobbies, mtrsd.
30 DRAPER D, 72" dobbies, mtrsd.
48 C&K 52" W2, auto. 4x1, 20 har. mtrsd.
48 C&K 52" W3, auto. 4x1 25 har. mtrsd.
8 C&K 52" W3, auto. 4x1 25 har. mtrsd.
72 C&K 92" W1, auto. 4x1 25 har. mtrsd.
12 C&K 92" W3, auto. 4x1 25 har. mtrsd.
10 C&K 92" 25 har. auto. 4x1, mtrsd.

COTTON

1 S&L BALE BREAKER 9' apron.
1 LATTICE #12 CLEANER.
2 S&L Vertical OPENERS.
1 S&L Horizontal CLEANER #34.
1 Toledo LAP SCALE.
2 S&L BREAKER PICKERS 45", P.&D. Eveners.
25 WHITIN CARDS 45", 27" doffers, 12" coilers, 110 flats.
3 WOONSOCKET SLUBBERS, 72 spdls. ea. 11x5½.
8 WOONSOCKET INTERMEDIATES, 124 spdls. ea. 9x4½.
2 WOONSOCKET INTERMEDIATES, 168 spdls. ea. 8x4.
34 WHITIN SPINNING FRAMES, 3" gau. 1⅞-2" ring.
1 S&L Wet TWISTER, 200 spdls. 3½" gau.
1 TERRELL BOBBIN STRIPPER, Ser. #F323.
2 ABBOTT Model 63 CONE WINDERS, 100 spdls. ea. Model A knotters, bobbin hoists, hoppers, etc.

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1 D&F CARD, 3 cyl. iron 60x60 Tape Condenser, 120 ends.
2 WHITIN CARDS, 3 cyl. iron 60x60 Porcupine Tape Condensers, 120 ends.
3 D&F TAPE CONDENSERS 60", single rubb. 96 ends ea.
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1 CLARK B.B. MIXING PICKER, 12 bar, 48".
1 D&F Iron Fearnaught PICKER, 48"x50" dia. cyl.
1 C&M Fearnaught PICKER, 48x48".
9 D&F Model E SPINNING FRAMES, 120 spdls. ea. 6½" gau.
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1 FOSTER Model 12 WINDER, 60 spdl.

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6—Van Vlaanderen Stainless steel tensionless dye jigs, 50"
1—Boil Off Range, 60" wide w/3 Rope Washers
1—Van Vlaanderen Palmer Tenter Unit, 50" cloth/w/50' tenter frame
4—Copper jacketed mixing kettles w/agitators 50 & 100 gallon
1—National Loop Dryer 40' long, 87" cloth, 4 fans, M.D.
1—Hercules Centrifugal extractor 60" M.D.
2—Morrison Quetschers, 60" wide, lever pressure, M.D.
1—Van Vlaanderen Button Breaker, 60" wide, 18 rollers, M.D.
3—Van Vlaanderen Hi Speed Tubers, 60" wide, M.D.
1—Van Vlaanderen Singer, 60" wide, 2 gas burners
1—Butterworth Can Dryer, 23 copper cans, 60" wide, vertical
1—Greige Washer, 4 compartments, 60" wide, nip rolls
1—Textile Ager 18' long x 54" mouth piece, M.D.
1—Textile Calender, 3 rolls, 1 steel 50" wide, M.D.
1—Butterworth Tenter Frame 90' long x 54" wide w/50' housing
1—Morrison Tenter Frame 40' long x 60" wide, M.D.
1—Van Vlaanderen Palmer Quetsch Unit, 66" wide
1—Van Vlaanderen Decatizer, 52" wide, L4 pump, M.D.
1—David Gessner Full Decater, 72" width

1—Residual Shrinkage Control Range; Dalglish Pin Tenter Frame 100' long x 60". Proctor & Schwartz 80' housing Proctor & Schwartz 30' Roller Pre-Dryer, and Morrison Micro Set Padder, Age 1947

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1—Rice, Barton & Fales Print Machine, 12 colors, 50" wide
1—Franklin Mch. Co. Print Machine, 9 colors, 60" wide
2—Rice, Barton & Fales Print Machines, 8 colors, 60" wide
1—Rice, Barton & Fales Print Machine, 7 colors, 45" wide
1—Rice, Barton & Fales Print Machine, 6 colors, 45" wide
1—Rice, Barton & Fales Print Machine, 5 colors, 42" wide

SPINNING

2—S-L Single Process Pickers, auto. feeders
2—Butterworth Rag Pickers, 17" w/apron
4—S-L Kitson Feeder Hoppers, 38'
45—Mason Cards, 40", 27" doffer, 100-110, 12" coiler
22—Dobson & Barlow Cards, 40", 24" doffer, strippers
5—Intersecting Gill Boxes, 2 head
2—Whitin Silver Lappers, 20 end, 9¾" spool
2—Whitin Ribbon Lappers, 4 lap, 11¾" spool
12—Whitin Drawing, 6 del. Model H, 16" gauge
5—S-L 7/3½ Slubbers, 160 spdl. 5½" ga, J-2 L.D.
4—S-P 9/4½ Slubbers, 100 spdl. 7½" ga, J-1, L.D.
28—S-P 11x5½ Slubbers, 64 spdl. 9½" ga, Casablanca, L.D.
11—Whitin Spinning Frames, 252 spdl. 3¼" ga, Casablanca, L.D.
17—Universal #50 Winders, L drive, cone belt gain
3—Collins Twisters, 134 spdl. 4½" ga, tape drive
3—Collins Twisters, 84 spdl. 5½" ga. band drive
2—Fales & Jenks Twisters, 132 spdls. 5½" ga, tape drive

LOOMS

300—Draper XD, 44" cloth, 20 harness dobby, age 1941, M.D.
12—Axminster 9' Carpet looms, M.D.
100—Draper Modified D duck looms, 60", belt
200—Crompton & Knowles "Cotton King", 4x1 auto, 45½" r.s. M.D.
100—Draper XK, 44" cloth, 20 harness dobby, M.D.
40—Draper Model E, 60" cloth, 16 harness dobby
93—Crompton & Knowles Model 55, 56" r.s. 2x1 box, 20 harness
76—Draper Model K, 48" cloth, 20 harness dobby

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24—72" B.S. Draper Mod. D 2x1 Looms, with jacquards
8—72", 84" B.S. C&K 4x4 Box Looms with jacquards
30—72", 82" C&K 4x4 Box Looms, motor driven
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6—110" C&K 4x4 Box Looms, 25 harness
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Five Arnold Rubber Covering Machines, 80 sp. reel take-offs, full rubber feed, excellent shape. Eight Universal No. 50 Winders for winding and tubing rubber covered yarn, available with above.

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REBUILT MACHINERY FOR IMMEDIATE DELIVERY

1—72" Parks & Woolson Decatizer, Pump & Motor.
1—Butterworth Clip Tenter 40' x 72", Stainless Clips, Reeves & Motor.
1—Hinnekens, 60" Variable Speed Examining & Tubing Machine.
1—Ell off & Hall 54" and 60" Flat Folders.
2—W.J. Tenter Frames 20' x 54"
1—W.J. Tenter Frames, 30' x 96"
1—50'x90" Butterworth Pin Tenter Frame.
1—42" Self Balancing Extractor, M. D.
2—150 gal. Jacketed Kettles with agitators.
1—Set of 21-72" x 23" Dry Cans Horizontally.
2—54" General enclosed gear S. S. lined Dye Jiggs.
1—Set of 5—20" x 80" Heavy Steel Dry Cans.
1—Set of 7 copper cans, horizontal, Reeves & motor.
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1—54" King & Gerber embossing calender, M.D.
2—60" motor driven Beamers.
4—Hermas measuring & inspecting machines tube to tube.
1—60" Measuring, Inspecting & Tubing Machine, tube to tube, new, variable speed, forward, neutral & reverse.
30-60 gallon copper steam jacketed Kettles.
1—Hinneken's Boil-off Machine.
1—Sterling 7½ H. P. Vari-drive.
1—Reeves 7½ H. P. Vari-drive.
About 5,000 S. S. high speed V. V. Clips.
Agitators of various sizes.
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One 66"—5 Drum Johnson Slasher, Reeves Drive & Motor, in excellent condition
2-3 ft. 2-8' 1-10' 1-14' Stainless Steel Lined Dye Boxes
New Copper Rollers 16" x 60" wide, W Bore

SHerwood 2-7666 SHerwood 2-7667

Moe Blank

DOMESTIC EXPORT

TEXTILE MACHINERY

523-525 E. 18th ST. PATERSON 4, N. J.

News of the Month

(*Continued from page 298*)

ington. Materials include carbon steel and wrought iron (100 tons), alloy steel except stainless (5 tons), stainless steel (500 lb.), copper and copper-base alloy (4,000 lb.), and aluminum (1,000 lb.).

Pre-Korean Markups Permitted. CPR-67, a regulation that permits use of pre-Korean markups in establishing resellers' ceiling prices for machinery and related manufactured goods, has been issued by OPS. Equipment and commodities covered by CPR-67 include textile machinery and accessories; textile and leather belting; cotton-ginning machinery; electrically or mechanically operated measuring, testing, recording, or indicating instruments; packaging and wrapping machinery; stationary industrial lubricating systems and devices; electrical motors; and industrial sewing machines. A "reseller" is defined as one who is not a manufacturer of the equipment or commodity sold.

Machinery Exports Guaranteed. Nations friendly to the United States have been assured maintenance, repair, and operating supplies for the continued operation of machinery in their defense-production plants. The National Production Authority has issued MRO Order M-79 that establishes quarterly quotas for the export of MRO supplies to countries classified as non-communist. The order provides that U. S. manufacturers who produced more than $10,000 worth of MRO items for export during 1950 (calendar or fiscal) must make available for export in 1951 an amount of such products equal to 120% of the dollar value of their 1950 shipments.

Wage-Escalators Guide. A pamphlet entitled *Wage Escalators and the Adjusted CPI*, containing material on the extent and terms of escalator clauses in union contracts and the manner in which they are affected by adjustments in the Bureau of Labor Statistics' Consumers' Price Index (CPI), is available from regional BLS offices. By now, about 3,000,000 workers are affected by labor-management agreements providing for periodic cost-of-living wage adjustments. Nine-tenths of these adjustments are made on the basis of the BLS consumers' price index.

70 Universal No. 50 Gear Gain Motorized **CONERS**

Anti-wear tensions—3-30 Tapir Cones—excellent condition

10 FLETCHER and SCRANTON **Reeling Machines**

Motorized—complete with automatic stops—for 44" skeins—8 flys

Liquidating
COMPLETE NARROW FABRIC PLANT
IN PIECE-MEAL
- 15'8" FLETCHER LOOMS
- WARPING EQUIPMENT
- 8 & 12 SPACE C&H LOOMS
- QUILLER HEADS

100 C & K 5-3 *Automatic* LOOMS
Large shuttle boxes—52" Looms 2x1—20 Harness—23" & 24" flange beams—Payne Let-offs—individually motorized—excellent condition.

37 Atwood D. DECK 4¼" GAUGE **Twisters** 20—192 SPINDLES 14—282 SPINDLES 3—256 SPINDLES

6 U.S. Textile ACME D. DECK **Twisters**

212 spindles ea. 2 motors—1935 model—½ lb. package—4½" spindle spacing—bobbin equipment—excellent condition.

6 Large Package **5-B** ATWOOD DOUBLERS
12 oz. package—84 spindles—1938 model—6" spacing

1500 TRICOT BEAMS
13¾" Head—13" Traverse
2¾" Bore—9/16" & ¼" Keyway

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10—C & K looms, 25 harness, 78" between swords, 4X4, Cassimere heads, pick clocks, beam stands, individual 1½ horsepower new motors, harness, approximately $10,000 loom supplies, all switches, heddles, also 1½ loom beams, presently in operation.
1—72" double bed Gessner steam press, with variable speed, 7½ horsepower motor, extra jackets and all supplies.
1—Beamer, Warp Compressing, 84" width complete with 7½ horsepower motor, all switches, automatic Reeves variable speed drive, 1272 end creel for 8" tubes or spools, spare expansion combs, several spare expansion pressor rolls, complete V belt drive.
1—30 spindle Lasenby Junior T Cop Winder, complete with magnetic push button and cut off switches, V-belt drive, purchased 1950.
2—250 Universal Winders, bunch builders complete with all supplies, unwind and compensator attachments.
4—250 Universal Winders, complete with 2 motors, compensator, unwind and windup attachments.

FS-1841, Textile World
330 W. 42 St., New York 18, N. Y.

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IMMEDIATE DELIVERY

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1—60" Floating Knife Coater $350.00
1—50" Single Color Print Machine $750.00
1—50" 2-Roll Morrison Padder $375.00
1—50" Morrison Button Breaker, Ball Bearing $400.00
1—Set 16 Copper Dry Cans 80" $1200.00
4—Dinsmore Bicycle Sewing Machines $50.00 each
1—Giant Mixer $200.00
1—60" E. & M. Flat Folder $300.00
1—48" Hermas Inspection & Measuring Machine $200.00
1—60" Park Woolsen Single Blade Shear $200.00

Reeves Transmissions #2—$150.00, #3—$200.00, #4—$250.00

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1—80' x 72" Cloth Swing Tenter
1—30' x 100" Cloth Tenter, SS Clips
1—50" Open Soaper, 10 Bowls
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1—72" Embossing Calender
1—2-Ton Yarn Pressure Kier
1—Curtis & Marble 30" Folder
1—Kier Heater for 5' x 8' Kier

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1—P.A.S. 60" Card Feed (Mod. 535—Practically New)
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2—Sargent 92" Raw Stock Dryers
1—Hunter 7 section Raw Stock Dryer
1—D. & F. 7' all iron Cone Duster
1—Schofield 48" automatic Duster (box)
1—Woonsocket 36" x 36" ceiling condenser & blower
1—S.F. 60" Garnett Shredder
1—"Parkhurst" 48" Burr Picker with Feed
1—Sargent 36" Duplex Burr Picker
1—D. & F. 40" Mixing Picker, 6 Bar
3—Dodge, Schofield 18" x 30" Shoddy Pickers
1—D. & F. 48" Fearnaught Mixing Picker
2—Tolhurst 48" S S Extractors (New)
1—Draper 2½", 200 Sp. Novelty Twister.

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4—D. & F. or Altemus Warpers—rebuilt to order—82"—120". Pin or Pinless
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1—Globe Ball Warper & Creels
6—Draper 54" Mod. G Warpers
34—C. & K. W3, 82" 4x1 Looms
4—C. & K. 92" 4x1 automatic Looms
4—C. & K. 82" 4x1 automatic Looms
12—C. & K. 82" (4x4) Box Looms
2—L & G Chenile Cutters
1—Terrell Mod. K Bobbin Stripper

WINDING
UNIVERSAL #50 & #90 WINDERS
REBUILT TO ORDER

1—Universal 60 G.F., 96 sp. Cone Winder
1—Foster, Mod. 101, 100 sp. Cone Winder
1—Foster, Mod. 12, Skein to cone Winder, 60 sp.
2—J. & B. Jackwinders, 80 sp. & 120 sp.
10—Lindsay Hyde Adjustable Skein Reels
1—Whitin Quiller 2½" Gauge (long chain)
1—Lasenby 15 sp. Cop Winder

FINISHING

1—Perkins Cloth Filer, 72" traverse
2—Soia Squeeze Rolls 72"
2—Birch Bros. Doub. & Tack. Mach. (82")
1—Woonsocket 84" D. A. Napper, 36 rolls
1—P. & W. 66" 4 cyl. Brush & Sander
2—Tenzle Gig's, double cylinder (60")
2—Rope Soaping Machines (lead lined)
1—Yorkshire Crab 72"—3 bowl
1—8/3 Lined 80" Wetting-out Tank with squeeze rolls (Pneumatic Pressure)
2—P. & W. 66" Mod. A Double Shears
2—Voelker 65½" D. B. Presses
2—P. & W. 60" Semi-Decaters
1—Sel Dry Cans (4) 27" Copper
24—Vertical 100" Dry Cans, Copper, Tinned Steel
1—P. & W. Lancashire 92" Cloth Boarding Machine
1—Windle 86" Cloth Doub. & Meas. Mach.
2—P. & W. 86" Cloth Doub. & Meas. Mach.

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12M Take Ups—3⅜" T. x 3¼" H. S.S.
6M Fibre Twist. Spools—4" T. x 3⅛" H.
12M All Wood Spools—6" T. x 4" H.
60M SB Spin. Spools—4⅜" T. x 27/16" H.
15M Spin. Spools—4⅞" T. x 4⅜" HD. 1941.
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PLUS MANY OTHER ITEMS OF FINISHING, DYEING, ETC. EQUIPMENT. WRITE US YOUR NEEDS.

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3—36" diam. 20" wide between rings Copper Cans.
3—40" Steel Nests covered with Wool Felt.
2—40" Brass Rolls ¼" thick—14" diam.
34—C.I. Can Gears.
1—72" wide S.S. Box for Jigs.
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1—132 wide S.S. Suction slot.
1—Simplex Twisting & Doubling Machine.
43—20" Copper Cans 25" dia.
1—Junior Size Bleaching Range Stainless Steel Throughout. Capacity 600 lbs. per Hour, brand New, has D.C. Drive & Generator Set all G.E. Installation.
9—Raschel Machines—2—90" and 7—72" with 2 Warp Mills and 1—Reeves D Drive—2 Warp Creels, one of Metal now, and one of Wood. All in excellent condition.

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TEL. UNION 1-0050

TEXTILE FINISHERS EQUIPMENT
144 WEST RIVER ST.
PROVIDENCE, R. I.

Gluconic Acids

(*Continued from page 288*)

gluconic acid is not only able to sequester iron in the normal pH range, but it is also efficient in sequestering iron, calcium, and magnesium in the presence of comparatively high concentrations of caustic.

In certain dyeing operations, particularly on wool, there is rather extensive use of metallic salts, such as in the use of chrome mordant dyeing on wool. Chrome salts that are quite soluble in an acid medium tend to precipitate as the hydroxides as a more neutral pH is approached. In view of the extensive use of organic acids in this process, gluconic acid can be used not only to provide the necessary acid medium, but also to prevent the undesirable precipitation of chromium hydroxide.

Various metallic salts have been used in finishing processes, particularly the waterproofing process where aluminum sulphate is used to impart water-repellent properties to the fabric. It is often desirable to use basic alumina solutions, in which case the addition of slight amounts of gluconic acid may be used to hold the aluminum in solution.

Since all the metallic gluconates are quite soluble in water and remain so even in highly alkaline solutions, the use of gluconic acid as an acid catalyst, together with its auxiliary sequestering action, should be of considerable interest in these and similar applications.

Textile Printing

Textile printing with vat soluble esters is the process whereby color in any desired pattern is applied to a fabric. Application may be carried out by machine printing or by screen printing. Color is developed by passing the printed material through a steaming or aging device, and the shade is developed by oxidation in an acid medium.

In ammonium gluconate, technical, and gluconic acid 50%, technical, the textile printer has two auxiliaries. When used correctly, these auxiliaries will be useful and economical for the production of brighter, sharper, clearer prints, which in certain cases have stronger color values.

Printing pastes for these vat-soluble esters, which may be used in both screen and machine printing, are formulated in an alkaline medium. After printing, the colors are developed in acid baths or in acid or neutral steam. Ammonium gluconate, or gluconic acid neutralized with ammonia, is included in the formulation of the paste as an acid-forming catalyst. When

(*Continued on page 339*)

(Continued from page 338)

steam is applied, the ammonium gluconate decomposes to yield a non-volatile, non-tendering acidic medium in which to develop the color.

ALKALINE PASTE. Ammonium gluconate can be employed with almost any of this type of dyestuff for development by the chlorate method in acid or neutral systems. It is usually used as a 1:3 solution (1 part ammonium gluconate to 3 parts water) and added to the paste at levels of 5 to 12 parts of this solution per 100 parts of the print paste. Slight amounts of ammonia are used to top off this paste to insure alkalinity.

Besides reducing any danger of tendering, the use of gluconic acid or its ammonium salt gives greater color value. This result is probably due to the sequestering action of the gluconate radical and more stable pastes. The formation of more stable pastes is important when printing pastes must be stored. Acid dyes are printed directly on silk and wool after pasting in the usual manner. Such pastes are normally made acid or become acid after steaming because of the presence of an ammonium salt, which, upon decomposition, yields an acid.

Since many acid dyes are very sensitive to the presence of heavy metals, the use of gluconic acid in such formulations at a level of 4 to 6% gluconic acid (50%) or 8 to 12% ammonium gluconate 1:3 would be of value. Such additions should yield brighter colors, greater value, and sharper marks on lines with less tendering of the goods. The non-volatility of gluconic acid, in addition to ready solubility upon washing, would bring about increased leveling and penetration of the color.

Acid Colloid Resins

The use of synthetic resins for finishing textiles has become increasingly important during the last several years. Until recently, durable finishes for textiles have been built around the urea-formaldehyde type of thermo-setting resins. However, of particular interest is a comparatively new group of resins of the melamine family, usually referred to as acid-colloid resins, the advantages of which are rather well known.

Briefly, fabrics treated by the recently developed acid-colloid resins method have shown a considerably higher retention of tensile strength than is obtained from the urea-formaldehyde treatment of textiles. Acid-colloid resins are also unique in that they require only low temperatures for curing. Other advantages shown by this process are retention of rigidity of hand after laundering, shrinkage con-

(Continued on page 340)

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46", 20-HARNESS DOBBY, 26" STEEL BEAMS, ELECTRIC STOP MOTION—IMMEDIATE DELIVERY

S-3 LOOMS
C & K 56" REED SPACE 2 x 1 AUTOMATIC SHUTTLE CHANGE

RAYON SLASHER
66" x 23", 7-DRUM, STAINLESS STEEL

SIPP 84" HI-SPEED WARPER, ALL METAL WITH 1040-END MAGAZINE CONE CREEL, 1948

NON-AUTO LOOMS, 52"-56" 2 x 1, 4 x 1, DOBBY

S-4, 4 x 1 SHUTTLE CHANGE, 54" REED SPACE

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Jaeger Model 4050A 43-A1 43-A3

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★ Very small Torque — requires practically no power to drive.
★ Unequalled Readability 2" Open face dial—each division on large dial equals 1 RPM; each division on small dial equals 100 RPM. 0 to 6000 RPM.
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★ Results of last reading remain on dial until next test taken.
★ Push button for automatic resetting.

Will give accurately within a few seconds, by direct reading, the R.P.M. of shafts. Each unit comes complete in a velvet lined carrying case 5"x3½"x 1¼". Net List Price $70.00—Surplus—Guaranteed.

DEPT. 1-A

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Universal #50, #90 Winders rebuilt to your specifications.
1—Emerson Yarn Conditioning Oven
1—Landfear Spool Printer
2—Rebuilt, Lindsay-Hyde Reels
1—Atwood 4 Section 7K Reels
2—Atwood 4 Section 10K-W Reels
5—Ruf Balling Machines
4—Chelmsford Balling Machines

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94 Draper Auto. Model E Dobby Looms, Motor Driven, 43" cloth.

60 C & K S-3 Looms 54" R.S.

S-6 LOOMS 36" COMPLETE PLANT

60 FOSTER CONERS MODEL 73A

50 C & K 2x1 52" R. S.
16 C & K 2x1 Automatic 72" R. S
6 C & K 4x4 72" R. S.
56 C & K 4x1 36" R. S.
4 C & K 110" R. S. 4x4
2 C & K 100" R. S. 4x4
12 C & K 92" R. S. 4x1 Automatic
18 C & K 4x1 Automatic 82" R.S.
5 C & K 4x4 82" R.S.

DYEING MACHINERY
1 Jostrom fabric conditioner 64"
1 14 can Butterworth dryer 142"
1 19 can Butterworth dryer 72"
1 V V 60" Quetch
1 Textile Tenter Frame 52" wide 40' long
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30 50" Dry Cans
1 Birch Bros. Scutcher & Vacuum 60"

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9 Atwood Single Deck Utility Spinners
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8 Sipp Warpers & Winders
20 #90 Universals
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108" Diameter by 312" Long Horizontal Storage Water Heater with steel shell ¾" thick and bumped heads ⅞" thick, welded construction. Storage capacity 11,900 gallons. Heating capacity 6000 gals. of water per hour from 40° to 180° F. with steam at 100# pressure.
Total weight approximately 16 ton.
Never been in use. Available for immediate shipment.
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One circular pegg-drying and finishing machine
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FOR SALE
B T S
Garnett Mill (complete) 4 and 6 cyl. 60" with Whitin Cross Lappers.
2 Hunter 60" Garnetts, running-out aprons, batt folders, slitters, etc.
1 Cone Willow with Ceiling Condenser.
1 Dodge Shoddy Picker, ball bearing.
12 Whitin Spinning Frames 228 spd. tape drive, long draft.
44 Whitin Spinning Frames 240 spd. tape drive, conv. draft.
54 S-L Spinning Frames 208 spdl. tape drive, conv. draft.
16 H&B Spinning Frames 204 spdl. band drive, long draft.
BOBBINS SPOOLS SUPPLIES
BAY STATE TEXTILE CO.
220 HARTWELL STREET • FALL RIVER, MASS.

(*Continued from* page 339)

trol, and a marked improvement of abrasion resistance.

These properties are obtained by treating the fabric with a solution of resin polymer and acid catalyst. This treatment is followed by drying, curing at elevated temperatures, and washing to remove unpolymerized resin and acid catalyst that might give undesirable odors.

The necessity for an acid catalyst led to an investigation of the various mild organic acids conventionally used by the textile industry for this purpose. As a result of this work, the use of glucono delta lactone as the acid catalyst for acid colloid resins has gained wide acceptance.

LACTONE. Glucono delta lactone —which occurs as a white, odorless, crystalline powder—is easily soluble in water. It hydrolyzes to form mild, odorless, colorless, non-toxic solutions of gluconic acid—the acid catalyst used in the formation of acid-colloid resins.

A typical acid colloid may be formed by mixing:

12.5 parts of Aerotex M-3 resin (American Cyanamid Co.)
6.5 parts of glucono delta lactone
81.0 parts of water.

The easiest method of preparing this type of colloid is to dissolve the required amount of Aerotex M-3 resin in water at 80 to 85° F., stirring thoroughly to be sure that the viscous resin does not stick to the walls or the bottom of the vessel. Then add the necessary amount of glucono delta lactone and continue stirring the whole solution until it is uniform.

Upon standing, the solution acquires a faint blue opalescence, indicating that the colloid has formed. Cover the container to prevent evaporation, and allow this solution to age for about 24 hr. at 75 to 90° F. before it is used.

We have found in our laboratories that colloids formed between the temperatures of 75° F. and 85° F. have satisfactory stability and viscosity. If temperatures higher than 85° F. are encountered, add slightly larger amounts of glucono delta lactone per 12.5 parts of Aerotex M-3 resin.

Since this material is colorless, nontoxic, non-tendering and does not give offensive odors, there is no need for an after-wash of the fabric. Thus, it affords a definite saving in processing. It also gives a stiffer hand to the fabric.

The use of gluconic acid and its derivatives should be considered when the use of a mild, non-toxic acid catalyst or acid-forming catalyst is desirable.

NO, Doctor, there is no scientific laboratory formula for media selection. But experienced space buyers do have an effective and time-proven recipe for the profitable investment of advertising money—reasoning, judgement and experience PLUS THE USE OF FACTS. The basic advertising values of publications are reflected in the facts about their circulations. Also there are definite standards, mutually approved by buyers and sellers of advertising, by which circulations may be uniformly measured. Hence circulation facts, when reported in accordance with these standards, provide a dependable guide to sound advertising investments.

The information that makes it possible to measure advertising values based on circulation facts is given in the reports issued by the Audit Bureau of Circulations, a cooperative and nonprofit association of 3300 advertisers, advertising agencies and publishers. The Bureau has a staff of experienced, specially trained circulation auditors who make annual inspections and audits of the circulations of the publisher members. The factual data thus obtained is issued in the A.B.C. reports which are available to advertisers and agencies for use in comparing and selecting media.

Guesswork and waste in advertising are avoided when media is selected on the basis of the facts in A.B.C. reports. This business paper is a member of the Audit Bureau of Circulations. Ask for a copy of our A.B.C. report.

The audited information in A.B.C. reports for business papers includes the following:

How much paid circulation.
How much unpaid circulation.
Prices paid by subscribers.
How the circulation was obtained.
Whether or not premiums were used as circulation inducements.
Where the circulation goes.
A breakdown of subscribers by occupation or business.
How many subscribers renewed.
How many are in arrears.

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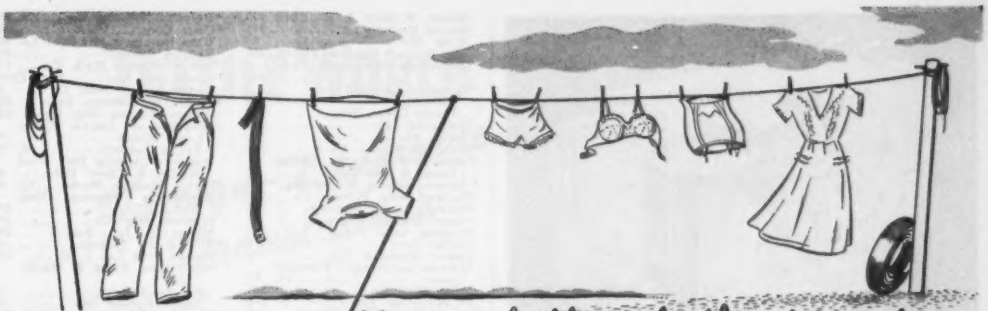

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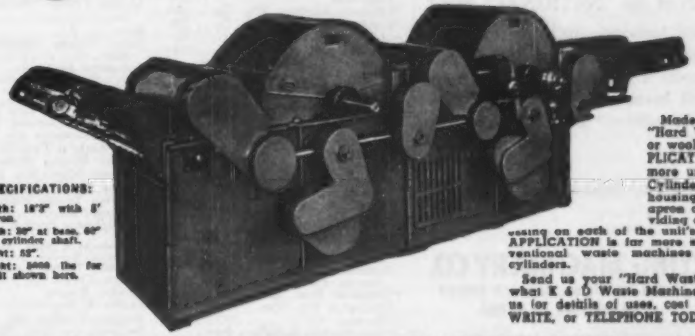

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Height: 55".
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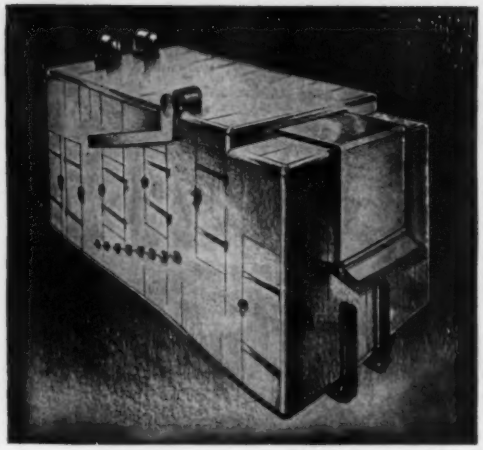

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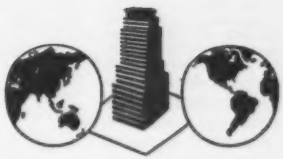


▸ **Brief Summaries in Spanish, French, and German of the Major Feature Articles in This Month's Issue**

Español

Página 109

Estudio de Tiempo de los Tejedores de Estambre. Este artículo trata de un estudio detallado realizado prácticamente para determinar la cantidad de trabajo correcta para los tejedores de estambre. Se muestran los modelos utilizados en cada etapa, con los datos obtenidos al hacer el estudio. Los modelos cubren análisis del trabajo, análisis de las paradas de los telares, regulación del elemento de trabajo, y la determinación final de una cantidad de trabajo equitativa.

Página 117

Tejiendo Lona en un Telar Liviano. Se pueden hilar tejidos de lona liviana en telares Draper de 30 a 40 pulgadas de anchura con aditamentos adecuados y buena conservación. En el artículo se relaciona el equipo de telar requerido, y también información sobre la conservación del cortador de trama, mecanismo de transferencia de trama, y otros detalles. El texto comprende un diagrama mostrando qué tipos de lona se pueden tejer en los telares livianos.

Página 118

Nuevo Tren de Blanqueamiento Continuo. Una blanquería del sur de los E.U.A. obtiene blanqueo más uniforme y operación más económica desde que instaló un nuevo tren de blanqueamiento continuo. El tren consiste de una chamuscadora, desencoladora, lavadora, impregnador del agente cáustico, cámara en J, dos lavadoras, impregnador de peróxido, cámara en J, lavadora, y tambores secadores. Los géneros livianos se pasan a 90 a 100 yardas por minuto; los géneros pesados a 70 a 80 yardas por minuto.

Página 120

Planta de Fuerza Modernizada. Una acabaduría del este de los Estados Unidos encontró después de la guerra que sus requisitos de fuerza y calefacción eran demasiado para la capacidad de la planta de fuerza que tenia 25 años. Las viejas calderas fueron reemplazadas por otras unidades más eficientes para que el vapor vivo y de elaboración fuese más adaptable a las diversas demandas de la fábrica. El equipo gene-

Français

Page 109

Etudes sur le temps requis pour tisser certaines qualités de peigné. L'article décrit un cas tiré de la pratique pour déterminer quelle est la production à imposer pour une qualité déterminée de peigné. Les formes à remplir à chaque stage de l'étude sont reproduites et accompagnées des données obtenues par l'enquête. Ces formes couvrent l'analyse de l'article en question, les temps d'arrêts des métiers, un chronométrage des divers éléments constituant la tâche et les conclusions à tirer pour déterminer l'imposition d'une production équitable.

Page 117

Du tissage de toile à voile sur métiers légers. Il est possible de tisser de la toile à voile légère sur des métiers Draper de 30 à 40 pouces de large, moyennant l'emploi d'accessoires appropriés et d'un entretien soigné des métiers. L'article donne la liste de ces accessoires ainsi que des informations sur l'entretien du coupe-fil, du mécanisme de changement de cannettes ainsi que sur d'autres parties du métier. Un tableau donne la liste des genres de toiles que l'on peut tisser.

Page 118

Nouvelle installation de blanchiment continu. Une qualité de blanchiment plus uniforme, à un prix de revient moindre, a été obtenue dans une usine du Sud des Etats-Unis, depuis qu'une nouvelle installation a été montée dans cette firme. Cette installation consiste en une grilleuse, une désencolleuse, un saturateur de caustique, une boîte en "J", deux lavoirs, un saturateur de peroxide, une boîte en "J", un lavoir et une manique (machine à sécher à cylindres). Les qualités légères sont séchées à raison de 90 à 100 yards à la minute; les articles lourds à raison de 70 à 80 yards à la minute.

Page 120

Modernisation d'une centrale. Une usine de la Nouvelle-Angleterre constata à la fin de la guerre que sa centrale, construite il y a 25 ans, ne suffisait plus aux besoins de vapeur et de force motrice. On remplaça donc les anciennes chaudières par des modèles

Deutsch

Seite 109

Zeitstudie fuer Kammgarnweber. Ein Tatsachenbericht einer Zeitstudie wird angefuehrt, die die richtige Arbeitslast fuer Kammgarnweber angibt. Formulare, auf denen jeder Schritt in dieser Studie im Betrieb aufgezeichnet wird, sowie alle Daten, die zur Erlangung dieser Angaben fuehren, werden verwendet. Diese Formulare umfassen: Arbeitsanalyse, Webstuhlstillstandsanalyse, Arbeitszeitverbrauch und die endgiltige Festlegung einer gerechten Arbeitslast.

Seite 117

Weben von Segeltuchen auf leichten Webstuehlen. Leichtes Segeltuch kann auf 30-40 inch breiten Draper Stuehlen bei Verwendung der richtigen mechanischen Behelfe und bei guter Instandhaltung gearbeitet werden. Die benoetigte Webstuhlausruestung wird aufgezaehlt und Auskuenfte bezuegl. Instandhaltung des Fadenschneiders, der Schusswechselvorrichtung und anderen Punkten erteilt. Eine Tabelle zeigt, welche Segeltucharten auf den leichteren Webstuehlen angefertigt werden koennen.

Seite 118

Neuartige, im fortlaufenden Prozess arbeitende Bleichanlage. Eine Bleicherei im Sueden erzielte einheitlicheres Bleichen bei geringeren Kosten, seit man eine neue Bleichanlage mit fortlaufendem Arbeitsprozess aufgestellt hat. Die Anlage besteht aus einem Senger, Entschlichter, einer Waschmaschine, einem Saettigungsapparat fuer Aetzstoffe, einem "J-Bottich", 2 Waschmaschinen, einem Peroxyd Saettigungsapparat, einem "J-Bottich", Waschapparat, und Trockner. Leichte Materialien laufen mit 90-100 Yards per Minute, schwere Materialien mit 70-80 Yards per Min.

Seite 120

Modernisierte Kraftanlage. Eine Appreturanstalt in Neu-England hat herausgefunden, dass ihr Heiz- und Strombedarf die Kapazitaet ihrer 25 Jahre alten Kraftanlage ueberschreitet. Alte Kessel wurden durch leistungsfaehigere ersetzt, so dass offener

fábricas de la Carolina del Sur ha redundado en el uso amplio de este tipo de piso en los salones de tejedura y en los almacenes. Los pisos no muestran desgaste, aun bajo denso tránsito de carretillas, y no se han tornado polvorientos o rajados. El revestimiento duro de la superficie se informa que es suave para los pies de los trabajadores.

Página 149

Proyecte la Lubricación de su Sala de Cardas para Optimos Resultados. Un programa de lubricación bien planeado es una gran ayuda para obtener la lubricación correcta de las máquinas de la sala de carda. El programa establecido debe mostrar qué lubricante debe usarse, la frecuencia de la lubricación, y cual engrasador es responsable de la atención de cada cojinete en las salas de carda y de batán. El número de los diversos lubricantes usados puede reducirse a cuatro: un aceite mediano y otro pesado; una grasa medianamente blanda y otra medianamente rígida. Se pueden utilizar ventajosamente los sistemas de lubricación centralizada y las graseras de botella de alimentación visible.

Página 151

Acido Glucónico — Adaptable Agente Textil. El ácido glucónico, un ácido suave y agente formador de ácido, tiene muchos usos potenciales en la elaboración textil. Su suave valor pH evita daños a los tejidos en la elaboración. El ácido tiene también un alto valor de separación, especialmente en presencia de cáusticos. El uso del ácido puede significar mejor teñidura y acabado en muchos casos.

Página 153

Una Fábrica Moderniza su Manipulación de Cajas de Cartón. Un transportador para la manipulación del embarque de las cajas de cartón ha convertido al departamento de empaque de hilos de una fábrica del sur a una base de tren de producción móvil. El cartón vacío es colocado en el transportador de rodillos y la caja se llena, ata, pesa y se rotula con estarcido en el mismo transportador. Luego, se mueve a lo largo del piso hacia la planta baja por medio de otro transportador a correa, pasando después al departamento de embarque por una segunda sección de rodillos.

Página 155

Ayudas para Mayor Eficiencia en la Tejedura de Punto. En este artículo "práctico" se describen e ilustran cuatro atajos que han sido desarrollados por fábricas de tejido de punto del sur de los Estados Unidos. Estos atajos pueden ser empleados en cualquier fábrica sin incurrir en gastos extraordinarios. Los fábricas que los han probado encuentran que han aumentado su producción al reducir el tiempo de paro, y que conservan la fábrica mucho más limpia que antes.

fermeté de la maille facilite l'assortissage des talons, et le guide de la surjeteuse glisse plus facilement le long du bas apprêté. Dans des usines où cette méthode à été introduite certaines ouvrières ont obtenu des augmentations de production allant jusqu'à trois douzaines.

Page 147

Des planchers de ciment qui résistent à l'usure. Un groupe d'usines de la Caroline du Sud ayant obtenu de bons résultats par l'emploi de pavements de ciment recouverts d'une masse "granolithique" en a augmenté l'emploi dans ses salles de tissage et d'entrepôt. Ces parquets ne présentent pas de signes d'usures malgré l'emploi continu de trucks de manutention. Ils ne s'effritent pas et ne deviennent pas poussiéreux. On rapporte que le revêtement dur de leur surface n'est pas fatigant pour les ouvriers.

Page 149

Programme de graissage des cardes. Un programme de graissage bien étudié est d'importance, pour une bonne lubrification des machines de la salle des cardes. Ce tableau devrait spécifier le genre exact de lubrifiant, la fréquence des graissages et l'ouvrier responsable du graissage de chaque palier etc. des batteuses et des cardes. On peut se limiter à quatre qualités différentes de lubrifiants: une huile de viscosité moyenne et une graisse epaisse, "moyenne-tendre" et une graisse "moyenne-dure." Des huileurs en verre à niveau visible et des installations à graissage central sont à recommender.

Page 151

L'acide gluconique. Un agent textile versatile, l'acide gluconique est à la fois un acide doux et un produit formant acide à de nombreux usages dans les industries de finissage et d'apprêt. Son faible degré de pH évite les dommages aux tissus et son emploi permet souvent d'obtenir de meilleurs résultats à la teinture et à l'apprêt.

Page 153

Une usine améliore sa manutention de cartons d'emballage. Une usine du Sud des Etats-Unis a mécanisé son département d'emballage de fils sur bobines par l'installation d'un transporteur pour ses cartons d'emballage. Le carton vide est placé sur un transporteur à rouleaux (chemin roulant) et, tout en se déplaçant, il est rempli, fermé au moyen de bandes métalliques, pesé et marqué au pochoir. Une courroie sans fin le descend à l'étage inférieur d'où un second transporteur à rouleaux le passe au département d'expédition.

Page 155

Pour augmenter le rendement d'une usine de tricotage. Quatre moyens d'augmenter la production qui ont fait leur preuve dans des usines du Sud des Etats-Unis, sont décrits dans cet article. Ils peuvent être appliqués sans grande dépense dans n'importe quelle usine. Leur emploi a non seulement réduit les temps d'arrêt dans la fabrication mais a résulté également en une usine plus propre et mieux tenue.

bereisaele und Lagerhausraeume veranlasst. Die Boeden zeigen keine Abnuetzung trotz schwerem Lastenverkehr und sind weder staubig geworden, noch sind sie pulverisiert. Die harte Oberflaeche soll nach Berichten "angenehm" fuer die Fuesse der Angestellten sein.

Seite 149

Planmaessiges Schmieren der Krempeln erzielt beste Resultate. Ein geplantes Oelen- und Einfettungsprogramm ist von grosser Hilfe, um richtige Einfettung an den Karden zu erzielen. Verzeichnisse sollen die zu verwendeten Fette und Oele aufweisen, Haeufigkeit der Anwendung und die fuer die Schmierung eines jeden Lagers verantwortliche Person in der Wolferei und im Kardensaal. Die Zahl der verschiedenen Lubrikationen kann auf 4 gehalten werden: ein mittleres und schweres Oel und ein halbweiches und halbhartes Fett. Tropfoelkannen und zentralisiertes Schmierungssystem koennen vorteilhaft verwendet werden.

Seite 151

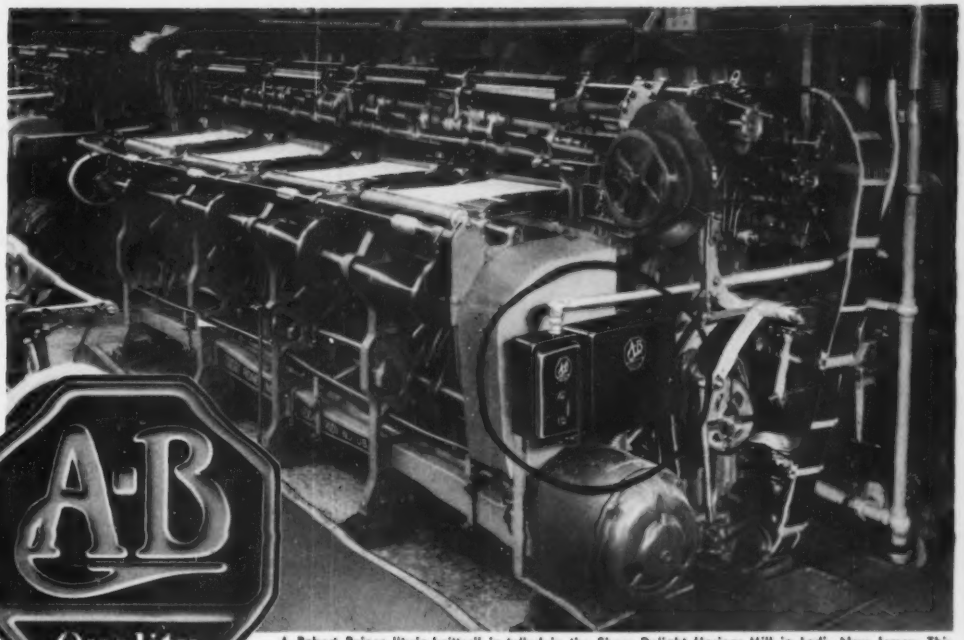
Glukonsaeure.-Vielseitiger Textilagens. Glukonsaeure, eine milde Saeure und ein saeure-bildendes Mittel, hat viele Verwendungsmoeglichkeiten im Textilverfahren. Der milde pH Wert verhindert Schaeden am Fabrikat. Die Saeure hat auch eine hohe Absonderungsfaehigkeit, speziell wenn Aetzstoff vorhanden ist. Verwendung dieser Saeure kann in vielen Faellen besseres Faerben und bessere Appretur ergeben.

Seite 153

Stromlinie fuer die Kartonhandhabung. Eine Fabrik im Sueden hat ihre Garnverpackungsabteilung durch Verwendung von Transportbaender fuer ihre Versandkartons auf eine sich fortbewegende Produktionsbasis gestellt. Der leere Karton wird auf ein Walzenlaufband gestellt, gepackt, gebunden, gewogen und bezeichnet. Dann wird das Paket mittels Riemenlaufband ins untere Stockwerk befoerdert und geht ueber ein zweites Walzenlaufband in die Versandabteilung.

Seite 155

Behelfe fuer erhoehte Strickereiproduktion. Die in einer Strickfabrik im Sueden ausgearbeiteten 4 Ersparungen sind in diesem Artikel "praktisch" illustriert und beschrieben. Diese koennen von jeder Fabrik, ohne grosse Ausgaben, eingefuehrt werden. Fabriken, die diese Tricks versucht haben, finden, dass die Produktion durch diese Zeitersparungen erhoeht wird und dass die Fabrik dabei leichter rein und nett zu halten ist.



A Robert Reiner "twin-knitter" installed in the Sheer Delight Hosiery Mill in Lodi, New Jersey. This machine is equipped with an Allen-Bradley Bulletin 609 Manual Starter, Bulletin 705 Reversing Starter, and two Allen-Bradley Bulletin 801 Limit Switches.

Robert Reiner "twin-knitter"

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